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On the cover

Private schools are booming in poor countries. Governments should either help them or get out of their way: leader, page 9. Where youngsters do not get a decent state education, the private sector is stepping in, pages 19-22. How to teach computer science to nursery-school children, page 68. India's murderous exam scandal, page 35

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6 The world this week

Leaders

- 9 For-profit education** The \$1-a-week school
- 10 Hedge funds** Fatal distraction
- 10 Turkey and Syria** Erdogan's dangerous gambit
- 12 Renewable energy** Puffs of hope
- 13 Espionage** What laws in the jungle?

Letters

- 14 On Greece, Uber, Iran, Israel, London**

Briefing

- 19 Low-cost private schools** Learning unleashed

United States

- 23 Renewables** Wondering about wind
- 24 The Jonathan Pollard case** Burn after reading
- 26 Mass shootings** God, good guys and guns
- 26 Alexander Hamilton** Fun with federalists
- 27 Planned Parenthood** The tissue trade
- 27 Exercise** Spin to separate
- 28 The Great Lakes** From rust belt to blue belt
- 30 Lexington** Living with inequality

The Americas

- 31 Argentina's elections** The scion and the heir
- 32 Bello** Anxiety in Ecuador
- 33 Peru** Slavery and the Shining Path
- 33 Morrissey in Mexico** Girlfriend in a conga

Asia

- 35 Statewide scams in India** Dial M for Madhya
- 36 Mullah Omar's death** The one-eyed king
- 36 Politics in the Philippines** Life after Noynoy
- 37 Crime in Japan** Young and unoffending
- 38 Banyan** Mutual mistrust between India and Pakistan

China

- 39 Wind power** In need of a weatherman
- 40 Contraception** Rising penetration rate

The world if

After page 40

Middle East and Africa

- 42 Turkey, America and the Kurds** Awkward allies
- 43 Syria** Inchng towards the end
- 44 West Bank settlements** Bulldozers at the ready
- 45 South Sudan and America** Get your act together
- 45 Nigeria** Justice forgotten

Europe

- 46 Russia and the world** Making waves, if not ruling them
- 47 Russia's awful prisons** Putin v Punk
- 48 The Maccabi Games** A sweet Jewish moment
- 48 Rome's erratic mayor** Eternal headaches
- 49 Charlemagne** The centre-left's woes



Turkey By bombing the Kurds as well as Islamic State in Syria and Iraq, Turkey is adding to the chaos in the Middle East: leader, page 10. It may have joined the American-led coalition against IS but there are plenty of strings attached, page 42. Turkey's political worries increase the fragility of an economy badly in need of reform, page 64



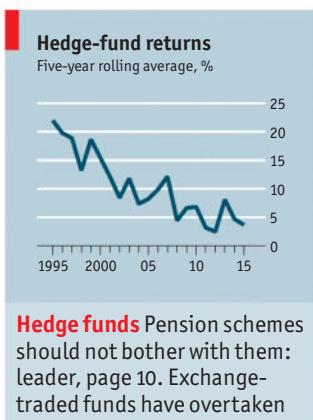
Green power Wind and solar energy are increasingly competitive. But a lot has to change before they can make a big difference: leader, page 12. America's first offshore wind farm is the test bed for a new industry, page 23. Chinese wind power is growing fast, but to thrive it needs a market, page 39



Gun-toting preachers America's churches are gripped by the impulse to defend themselves, page 26



Spying Regulating espionage will always be tricky. But democracies could do better: leader, page 13. Electronic spycraft is getting easier but more controversial. The old-style human sort is getting harder but more useful, page 53. For Israel, internet security has become a bigger export earner than arms, page 56



Hedge funds Pension schemes should not bother with them: leader, page 10. Exchange-traded funds have overtaken hedge funds as an investment vehicle, page 61



Fake bling Makers of expensive bags, clothes and watches are fighting fakery in the courts. The battle seems to be getting tougher, page 55

Britain

- 50 **Rising wages** Cleaning up
- 51 **Old people's homes (1)** Fraiser
- 51 **Old people's homes (2)** The rotten House of Lords
- 52 **Bagehot** The London Underground

International

- 53 **Intelligence and democracy** A new age of espionage

Business

- 55 **Luxury goods** Counterfeit.com
- 56 **Israeli security firms** Cyber-boom or bubble?
- 57 **Emaar Properties** Building castles on sand
- 58 **The newspaper business** Read all about us
- 58 **The palm-oil industry** Out of the frying pan
- 60 **Schumpeter** Myths about millennials

Finance and economics

- 61 **Investment funds** Exchange-traded fanfare
- 62 **Buttonwood** The commodity slump
- 64 **Moldova's economy...** Gutted
- 64 **...and Turkey's** Flightless
- 65 **Monetary policy in India** Rajan in chains
- 66 **Brazil's finances** The vanishing surplus
- 67 **Free exchange** Graduating from destitution

Science and technology

- 68 **Programming for four-year-olds** No assembler required
- 69 **Hail and farewell** The last view of Pluto
- 69 **Information security** The big bug hunt
- 70 **Power from waste heat** Hot stuff

Books and arts

- 71 **Banking history** Jacob Fugger
- 72 **America's opioid problem** Poppy love
- 72 **Worrying** A cultural history
- 73 **Visual art in Paris** Feel the beat
- 73 **Russian foreign policy** Blind alley
- 74 **Haruki Murakami** On to the start
- 74 **Nagasaki** When the cloud parted

76 Economic and financial indicators

Statistics on 42 economies, plus a closer look at stockmarkets

Obituary

- 78 **Patricia Crone** A scholar in the desert



The world if

Our new supplement of future-gazing scenarios includes: Hillary Clinton's presidency, Russia's break-up, driverless cars, the yuan v the dollar, an earth-bound asteroid, and much more, after page 40

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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
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Politics



Turkey, which has stayed aloof from the conflict across its Syrian border, entered the fray, launching limited air and ground attacks against Islamic State. It also bombed the Kurdish PKK. This came after a suicide-bomb on July 20th killed 32 people, mostly Kurdish student activists, in a Turkish town near the Syrian border. Turkey also allowed America, for the first time, to start using its airbase at Incirlik for sorties against IS. Talk of setting up a “safe area” inside Syria was denied by America.

Barack Obama paid his first visit as president to **Kenya**, his father’s homeland, then flew on to **Ethiopia**, whose capital, Addis Ababa, hosts the headquarters of the African Union. He praised Africa’s recent economic performance but spoke out against corruption in Kenya and a lack of freedom in Ethiopia.

A court in **Libya** sentenced Saif al-Islam Qaddafi in absentia to death for crimes that included the shooting of protesters during the revolution of 2011, when his father, Muammar Qaddafi, who had ruled for 42 years, was toppled and killed. A long-serving head of intelligence, Abdullah al-Senussi, was among eight others also sentenced to death. But a militia in the town of Zintan, which has been holding Mr Qaddafi, said it would not execute him or hand him over to the court in Tripoli.

A dentist from Minnesota stirred controversy by shooting a well-known lion, known as Cecil, near a national game park in **Zimbabwe**. An asso-

ciate was charged with permitting an illegal hunt. An online “Justice for Cecil” petition was signed by 400,000 people.

He’s done his time

America announced that **Jonathan Pollard**, who has served 29 years of a life sentence for spying for Israel, would be released on parole in November. Mr Pollard pleaded guilty in 1987 to passing documents to Israel when he worked as a naval intelligence officer. Israel admitted in 1998 that Mr Pollard was an agent. Some wonder whether the announcement was timed to soothe relations with Israel, which is still smarting over America’s recent nuclear deal with Iran.

Chaka Fattah, a **Democratic congressman** from Philadelphia, was indicted on 29 charges of racketeering, bribery and fraud. The charges mainly relate to a loan Mr Fattah obtained in his unsuccessful bid to become mayor of Philadelphia. He has stepped down from his position on the Appropriations Committee in the House of Representatives.

Out of captivity



Peru’s army freed 39 people apparently enslaved by the Shining Path, a communist rebel group that caused mayhem during the 1980s but has faded in importance. The government said the captives had been held in a “production camp”, where children farmed and women bred new insurgents. Some of them had been kidnapped 30 years ago.

Colombia’s president, Juan Manuel Santos, ordered a suspension of air strikes against camps used by the FARC, a leftist rebel army. This

was in response to a declaration of a month-long ceasefire by the FARC. Both made similar commitments some months ago, but they broke down when violence flared in April. The de-escalation should help the FARC and the government make progress in peace talks that are taking place in Havana.

Standard & Poor’s, a credit-rating agency, put **Brazil’s** debt on watch for a possible downgrade, placing the country’s investment-grade credit rating at risk. The Central Bank has continued to tighten monetary policy, raising interest rates by 50 basis points for the sixth time in a row.

A timely death

The intelligence agency in **Afghanistan** claimed that the longtime leader of the Taliban, Mullah Omar, thought to have been hiding in Pakistan since the Taliban was ousted by American-led troops in 2001, had died two years ago in a Pakistani hospital. That is despite parts of the Taliban recently claiming that Mullah Omar had endorsed peace talks with the Afghan government. The loose-knit and often fractious organisation appears not to have a new leader.

Police in **Pakistan** claimed to have shot dead the leader of a Sunni militant group, Lashkar-e-Jhangvi. Malik Ishaq led a brutal organisation responsible for attacks on Pakistan’s minority Shia population.

The UN said that **India’s** population will surpass **China’s** six years sooner than thought. Both would reach 1.4 billion people by 2022.

In **Malaysia** the prime minister, Najib Razak, reshuffled his cabinet in the face of allegations that \$700m from a state-investment fund was paid into his personal bank accounts. Out went the deputy prime minister, who had been critical of the government’s handling of the scandal, and the attorney-general, who was conducting an investigation into the fund.

Investigators searching for Malaysia Airlines flight

MH370, which went missing in March 2014, began examining debris from an aircraft that has washed up on Réunion, an island in the Indian Ocean.

Fall into line

Alexis Tsipras, the **Greek** prime minister, told rebellious leftists from his Syriza party that he might call snap elections if they continued to resist implementing a bail-out deal. Meanwhile, a prosecutor launched an investigation into an admission by Yanis Varoufakis, the former finance minister, that he and his aides prepared to hack into tax codes and set up a parallel payment system. This was part of a “Plan b” if Greece were to be forced out of the euro zone. The probe will not focus on Mr Varoufakis himself, who enjoyed ministerial immunity.



In France more than 2,000 **migrants** tried to storm the Channel Tunnel over several nights in a bid to stow away on trains and lorries headed for Britain. One man died, bringing the total number of deaths to nine over the past month. Despite the dangers, some make it to Britain and have requested asylum. Although they could request asylum in France, many migrants think—often mistakenly—that the rules are easier in Britain.

Lord Sewel resigned from the **House of Lords** after a tabloid filmed him allegedly snorting cocaine and cavorting with prostitutes wearing an orange bra and leather jacket (looking only slightly more ridiculous than dressed in the traditional ermine worn by lords). One of his roles in the House was overseeing standards.

Business

The latest meeting of the **Federal Reserve** stuck with the same moderate language on its outlook for the American economy. Many investors are betting that the central bank will raise interest rates in September for the first time since 2006. But although it described gains in the labour market as "solid", low inflation is a nagging concern that could push back a rate increase.

Chinese acrobats

China's stockmarkets tumbled again, a few weeks after the government sought to stabilise share prices by pumping billions of yuan into the markets. The Shanghai Composite index fell by 8.5% on July 27th, its steepest one-day decline since early 2007. Various explanations were offered for the sell-off, including the soaring price of pork. The markets steadied after another injection of liquidity from state-controlled financial firms, known as the "national team".

Carmakers posted buoyant earnings, by and large. PSA Peugeot Citroën, which has revved up its business after struggling with draining costs, made a net profit of €571m (\$627m) in the first half, its best for years. The French carmaker's share price has risen 80% since the start of the year. And Ford made a record profit in its North American operations. But worries persist about the slowdown in emerging markets. Volkswagen's sales in Russia dropped by 39% and in Brazil by 26% year-on-year. Ford's analysts predicted that industrywide car sales in China would fall this year.

BP reported a loss of \$6.3 billion for the second quarter, as it absorbed the cost of its settlement with federal and state governments in America over the Deepwater Horizon oil spill. But the plunge in oil prices also featured, driving profit down in oil production and exploration. **Royal Dutch Shell**, meanwhile, said it

would lay off 6,500 workers and decrease capital spending by 20% this year. And **Centrica**, a British gas provider, is to cut 6,000 jobs as it reduces its struggling energy-production business. The price of Brent crude fell again this week to \$53 a barrel; last summer it was trading at \$115.

The broad decline in commodity prices was the main factor behind a \$3 billion loss in the first half of the year reported by **Anglo American**. The mining giant is shedding 53,000 jobs.

Two big American health insurers, **Anthem** and **Cigna**, said they would combine in a \$54 billion transaction, the latest deal in an industry that is still adapting to Obamacare. And **Teva**, based in Israel and the world's biggest maker of generic drugs, agreed to buy **Allergan's** generic-drugs business for \$41 billion. More than \$250 billion-worth of acquisitions have been announced in the health industry since January.

Two of Europe's biggest banks produced solid earnings. At **UBS**, quarterly net profit rose by 53% to SFr1.2 billion (\$1.3 billion), boosted by its booming wealth-management busi-

ness. And pre-tax profit at **Barclays** for the first six months of 2015 grew by 25% to £3.1 billion (\$4.8 billion); it benefited from a strong turnaround at its investment bank.

Tweets and turns

Seven weeks after returning as interim chief executive to the company he founded, Jack Dorsey gave a downbeat assessment of **Twitter's** performance. Although its net loss in the second quarter of \$137m was smaller compared with the same period last year and revenue rose by 61%, to \$502m, the growth in the number of its active users decreased sharply, which Mr Dorsey said was "unacceptable". After he hinted that a root-and-branch overhaul of the business might be necessary, Twitter's share price plunged.

Pearson decided to sell the **Financial Times** in order to focus on its core business of providing services to education. The surprise buyer is Nikkei, Japan's largest media company. Pearson is also in talks over a separate sale of its 50% non-controlling stake in *The Economist*.

America's National Transportation Safety Board concluded its investigation into the

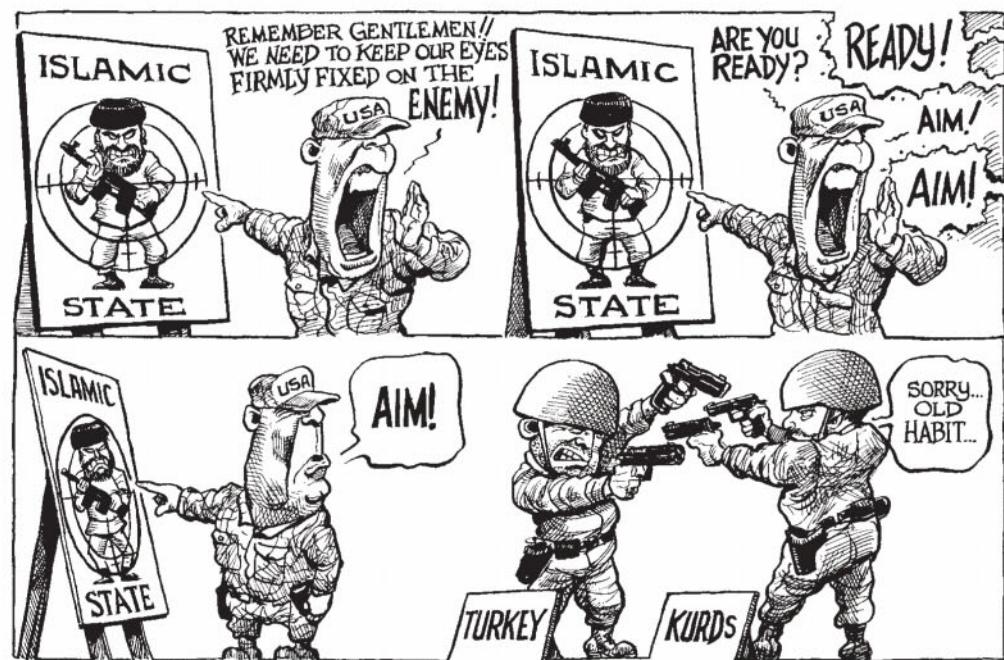
break-up of **Virgin Galactic's** **SpaceShipTwo** last October. The fatal accident was solely caused by the atmospheric re-entry braking system, which extended after being unlocked prematurely by the co-pilot. With a fail-safe procedure now in place, Virgin hopes to continue bringing its spacecraft into commercial service.

Prendre le mickey



The European Commission confirmed it was looking into complaints that some entry charges into **Disneyland Paris** were lower for its French visitors than for those from other countries. The commission has launched a broader clampdown on "geoblocking", where companies vary prices or services depending on where a customer lives.

Other economic data and news can be found on pages 76-77





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The \$1-a-week school

Private schools are booming in poor countries. Governments should either help them or get out of their way



ACROSS the highway from the lawns of Nairobi's Muthaiga Country Club is Mathare, a slum that stretches as far as the eye can see. Although Mathare has virtually no services like paved streets or sanitation, it has a sizeable and growing number

of classrooms. Not because of the state—the slum's half-million people have just four public schools—but because the private sector has moved in. Mathare boasts 120 private schools.

This pattern is repeated across Africa, the Middle East and South Asia. The failure of the state to provide children with a decent education is leading to a burgeoning of private places, which can cost as little as \$1 a week (see pages 19–22).

The parents who send their children to these schools in their millions welcome this. But governments, teachers' unions and NGOs tend to take the view that private education should be discouraged or heavily regulated. That must change.

Chalk and fees

Education in most of the developing world is shocking. Half of children in South Asia and a third of those in Africa who complete four years of schooling cannot read properly. In India 60% of six- to 14-year-olds cannot read at the level of a child who has finished two years of schooling.

Most governments have promised to provide universal primary education and to promote secondary education. But even when public schools exist, they often fail. In a survey of rural Indian schools, a quarter of teachers were absent. In Africa the World Bank found teacher-absenteeism rates of 15–25%. Pakistan recently discovered that it had over 8,000 non-existent state schools, 17% of the total. Sierra Leone spotted 6,000 "ghost" teachers, nearly a fifth the number on the state payroll.

Powerful teachers' unions are part of the problem. They often see jobs as hereditary sinecures, the state education budget as a revenue stream to be milked and any attempt to monitor the quality of education as an intrusion. The unions can be fearsome enemies, so governments leave them to run schools in the interests of teachers rather than pupils.

The failure of state education, combined with the shift in emerging economies from farming to jobs that need at least a modicum of education, has caused a private-school boom. According to the World Bank, across the developing world a fifth of primary-school pupils are enrolled in private schools, twice as many as 20 years ago. So many private schools are unregistered that the real figure is likely to be much higher. A census in Lagos found 12,000 private schools, four times as many as on government records. Across Nigeria 26% of primary-age children were in private schools in 2010, up from 18% in 2004. In India in 2013, 29% were, up from 19% in 2006. In Liberia and Sierra Leone around 60% and 50% respectively of secondary-school enrolments are private.

By and large, politicians and educationalists are unenthusiastic. Governments see education as the state's job. Teachers' unions dislike private schools because they pay less and are

harder to organise in. NGOs tend to be ideologically opposed to the private sector. The UN special rapporteur on education, Kishore Singh, has said that "for-profit education should not be allowed in order to safeguard the noble cause of education".

This attitude harms those whom educationalists claim to serve: children. The boom in private education is excellent news for them and their countries, for three reasons.

First, it is bringing in money—not just from parents, but also from investors, some in search of a profit. Most private schools in the developing world are single operators that charge a few dollars a month, but chains are now emerging. Bridge International Academies, for instance, has 400 nursery and primary schools in Kenya and Uganda which teach in classrooms made from shipping containers. It plans to expand into Nigeria and India. Mark Zuckerberg, Facebook's founder, Bill Gates and the International Finance Corporation, the World Bank's private-sector arm, are among its investors. Chains are a healthy development, because they have reputations to guard.

Second, private schools are often better value for money than state ones. Measuring this is hard, since the children who go to private schools tend to be better off, and therefore likely to perform better. But a rigorous four-year study of 6,000 pupils in Andhra Pradesh, in southern India, suggested that private pupils performed better in English and science than public-school pupils, and at a similar level in maths and Telugu, the local language. The private schools achieved these results at a third of the cost of the public schools.

Lastly, private schools are innovative. Since technology has great (though as yet mostly unrealised) potential in education, this could be important. Bridge gives teachers tablets linked to a central system that provides teaching materials and monitors their work. Such robo-teaching may not be ideal, but it is better than lessons without either materials or monitoring.

Critics of the private sector are right that it has problems. Quality ranges from top-notch international standard to not much more than cheap child care. But the alternative is often a public school that is worse—or no school at all.

Those who can

Governments should therefore be asking not how to discourage private education, but how to boost it. Ideally, they would subsidise private schools, preferably through a voucher which parents could spend at the school of their choice and top up; they would regulate schools to ensure quality; they would run public exams to help parents make informed choices. But governments that cannot run decent public schools may not be able to do these things well; and doing them badly may be worse than not doing them at all. Such governments would do better to hand parents cash and leave schools alone. Where public exams are corrupt, donors and NGOs should consider offering reliable tests that will help parents make well-informed choices and thus drive up standards.

The growth of private schools is a manifestation of the healthiest of instincts: parents' desire to do the best for their children. Governments that are too disorganised or corrupt to foster this trend should get out of the way. ■

Hedge funds

Fatal distraction

Pension schemes should avoid an expensive form of fund management



THEY are sometimes portrayed as invincible, with enough cunning to outfox financial markets and enough clout to outgun governments. But hedge funds have been bested by an unassuming rival: exchange-traded funds (ETFs). These claim no special expertise, just the ability to make average returns at minimal cost. In 1999 ETFs controlled a mere tenth of the assets of hedge funds; today they have more money under management. The rise of ETFs is welcome, but hedge funds, which frequently charge both a 2% annual fee and 20% of performance, are still raking in money. For the pension schemes that are the hedgefunds' latest target, handing over cash makes no sense.

Delta blow

For one thing, the hedge funds' performance does not justify a large inflow of new money. Since the golden years of the 1990s, their average return has been disappointing (see page 61). The industry used to promote itself as being able to make profits whether the underlying markets were rising or falling. In fact, in the financial crash of 2008 it suffered big losses. In recent years the average return of hedge funds is remarkably similar to what a portfolio of bonds and equities would yield—with the disadvantage that higher fees are deducted.

Naturally, no self-respecting hedge-fund manager would consider himself to be merely "average". It is indeed possible that hedge funds in specific niches may enjoy superior returns: betting on the outcome of mergers, for example, or investing in the bonds of companies on the verge of bankruptcy. But such opportunities are too small to boost the entire industry. Likewise, some very talented hedge-fund managers can earn exceptional returns from conventional assets such as equities

and government bonds—at least for a time. The difficulty lies in spotting these managers in advance. If that were easy, why would investors give any money to the rest?

After the financial crisis, the industry refined its pitch. Instead of aiming at the very wealthy, it now targets institutions such as pension funds. And it emphasises not the absolute size of its gains, but the benefits of diversification and less volatile short-term returns.

Yet for pension funds this rationale makes little sense. Because their liabilities are long-term, they can ride out volatility. That is an argument for investing in illiquid assets such as property or private equity. It is not an argument for backing hedge funds.

In addition, the industry is too small to make much difference to pension funds and endowments. Its assets are \$3 trillion, compared with the \$36 trillion invested in pension funds around the world. If pension schemes had 10% of their assets in hedge funds, and if they earned two percentage points of additional return, that would add only 0.2 percentage points to total returns. Meanwhile failures and fraud are not unknown, so pension funds need to devote a lot of time to understanding the strategies of hedge-fund managers and assessing their risks. Small wonder that CalPERS, a giant American pension fund, has concluded that putting money in hedge funds is not worth the bother.

The worry is that some pension funds in America are allocating money to hedge funds out of desperation. Many public-sector funds are heavily in deficit and are aiming for unrealistic returns of 7.5-8%, at a time when Treasury bonds yield just over 2%. For all the talk of a better balance between risk and reward, such pension funds are actually hoping the hedge funds will get them out of the hole. They won't. What schemes in deficit need to do is increase contributions or reduce benefits. Investing with hedge funds is a distraction. ■

Turkey and Syria

Erdogan's dangerous gambit

By bombing the Kurds, as well as Islamic State, Turkey is adding to the chaos in the Middle East



TURKEY'S allies in the West have felt increasingly queasy about its wayward president, Recep Tayyip Erdogan. At home he has become authoritarian and wants to change the constitution to give himself more power. Abroad he has been indulgent towards militants passing through his country to fight in Syria. In the year since the jihadists of Islamic State (IS) declared their caliphate in parts of Iraq and Syria, and America gathered a coalition to "degrade and ultimately destroy" them, Mr Erdogan has refused to let NATO allies use Turkish bases.

Perhaps he feared that the jihadists would target Turkey. Or perhaps he thought they were useful pawns in the violent geopolitics of the Middle East. Such illusions should have been blown away on July 20th, when a suicide-bomber killed 32 people in Suruc, a Turkish town on the border with Syria. Within days Turkey said it would allow America to use its base at Incirlik, and its own jets bombed IS. There is now talk of creating a buffer zone in Syria to cut off IS's last supply lines.

Many hope Mr Erdogan has at last had a moment of clarity about the IS menace. So far, though, he has only added to the murk of the region's wars. His air force has mostly bombed the Kurds who, in various guises, have proved to be the most resolute fighters against IS. The Kurdistan Workers' Party (PKK), ►

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► which has been fighting an on-off insurgency against Turkey for decades, invited retribution by breaking a two-year ceasefire and killing several policemen and soldiers, in reprisal for Turkey's supposed collusion in the Suruc bombing, which hit a Kurdish cultural centre. But Mr Erdogan is being reckless, too. By deliberately stirring nationalist, anti-Kurdish sentiment, he is endangering the chance of a lasting settlement of the Kurdish question and weakening the fight against IS.

Why the caliphate endures

Under attack from America and an impressive list of allies, IS should by now be in full retreat. There are cracks in the caliphate, to be sure, but it has endured and has at times even taken new territory. Its resilience creates a myth of God-given invincibility that radicalises admirers around the world, draws recruits and spawns copycat groups.

The caliphate survives because its defeat is nobody's priority. America's aim is to limit its military commitment in the Middle East. For Saudi Arabia and the Gulf monarchies, the big threat is Iran. Iran's main mission is to prop up the Syrian dictator, Bashar Assad. Mr Assad's first concern is holding other rebels at bay. The rebels' obsession is to get rid of Mr Assad.

The hardest fighting against IS in the past year has been waged, in Iraq, by Shia and Kurdish Peshmerga militias; and, in Syria, by the Kurdish forces of the People's Protection Units (YPG), an offshoot of the PKK. The Syrian Kurds' valour in defending the town of Kobane, in full view of television cameras just across the border in Turkey, earned much admiration and the direct support of America's air force. Though Turkey sheltered Kobane's fleeing civilians, it watched with indifference as Kurdish fighters desperately fought off IS; it only grudgingly allowed Iraqi Kurds to reinforce them.

With the most powerful army in the region, Turkey could tip the scales against IS. But it, too, has had other priorities (see page 42). At first Mr Erdogan made it his personal mission to get rid of Mr Assad; later, he worried about preventing Kurds from making more gains. When the Kurds evicted IS from the border town of Tel Abyad, Turkey warned them not to cross the Euphrates and link up with another Kurdish enclave to the west. The "Islamic State-free zone" in Syria that Turkey is urging looks more like a Kurd-free zone.

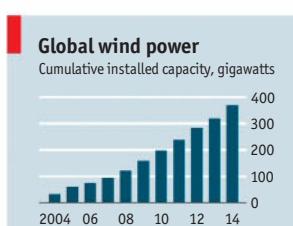
Many suspect Mr Erdogan of using the crisis for his own political advantage at home. When his Islamist-tinged Justice and Development (AK) party first came to power in 2002 Mr Erdogan was a reformer who sought a deal with the Kurds. But in June's election he was denied a majority by the strong showing of the People's Democratic Party (HDP), a slick left-leaning group with strong Kurdish links. So Mr Erdogan is now playing the anti-Kurdish card. He has disowned a "road map" to peace negotiated by AK and the PKK. He says peace talks are "not possible", and wants to strip away the immunity of HDP MPs. By bombing PKK bases in Iraq, Mr Erdogan may be trying to cut the support for HDP before calling new elections this autumn to gain the votes he needs to change the constitution.

If so, Mr Erdogan's vainglory risks placing Turkey on the pyre of the Middle East. The AK party should ignore the president's scheming, get on with forming a coalition with centrists and resume peace talks with the Kurds. The PKK must restore the ceasefire: more than three decades of fighting produced only misery. Now that the PKK has abandoned its old separatism, negotiations on devolution and language rights offer the best prospect of peace. If Turkish and Kurdish guns were pointed at IS, rather than at each other, it would be better for Turkey, the Middle East and the world. ■

Renewable energy

Puffs of hope

Wind and solar energy are increasingly competitive. But a lot has to change before they can make a real impact



ON THE afternoon of July 25th renewable generators fulfilled about 78% of Germany's domestic demand. Such a remarkable figure, combined with news of booming wind industries in America (see page 23) and China (page 39), might lead you to think that the renewables revolution is more or less victorious, with the world moving forward into the broad, sunlit—and windy—uplands of copious clean energy. Alas, this is not the case.

In some places wind turbines and solar cells are now a cheaper way of generating electricity than fossil fuels are. And in a lot of others subsidies and regulatory requirements encourage their use regardless. But despite this progress, bought at great expense, renewables other than hydropower still provide less than 3% of the world's energy. The impressive growth of wind power lags behind the rate that the International Energy Agency (IEA), a Paris-based intergovernmental think-tank, suggests is necessary for the world to have a good chance of limiting global warming to less than 2°C. That two-degree sce-

nario requires the world to generate 11 times more wind power by 2050, and 36 times more solar power. And it requires a big helping of new nuclear power, too. If, like German Greens and many others, you would rather do without that helping hand, the requirement for further renewables becomes yet more far-fetched.

The most equitable and straightforward way to move towards more low-carbon energy would be a global system of steadily escalating carbon taxes. In the absence of such an enlightened policy, though, there are other ways to encourage the spread of renewables.

Removing subsidies around the world on fossil fuels is one of them. Another is increasing public investment in low-carbon energy research. Research into renewable energy, storage systems and energy transmission accounts for only about 1% of government R&D spending in rich countries. This has meant that the renewables boom of the past decade, especially in the case of wind, has been mostly a come-as-you-are affair: big subsidies for the deployment of today's technology but very little spent on tomorrow's.

The design of electricity markets matters, too. The best way to finance renewable energy is by creating predictable de- ►

►mand, which attracts institutional investors. That usually means long-term fixed-price contracts, allocated by auction. These schemes are working well, particularly in emerging markets, where all extra power is welcome. In mature ones renewables need to displace existing capacity, which is trickier.

Grids in

There are further problems to overcome. Germany's record-breaking afternoon was a windy one in the north of the country, where most of the turbines are, and a sunny one in the solar-cell-covered south. Such happy coincidences have obverses—dark, windless winter evenings—that need to be planned for. This requires a balance of storage capacity, back-up power and interconnections between electric grids.

In places like Scandinavia and Brazil hydroelectric and wind power work well together. Gas-fired power stations, cheap to build and comparatively low in their emissions, are

also good. But it is hard to get people to build gas-fired power stations that will not be used very much—which in markets with a lot of renewables is their inevitable fate. In Germany the renewables boom has paradoxically seen gas edged out by cheaper but much dirtier lignite.

Provision for backup capacity has to be part of any policy that gives renewables a large role. So do technology and pricing regimes that make it easy for people and industry to use less power when the grid is running on fossil fuels and more when the wind is up and the sun shining. And those grids themselves need attention; renewables benefit from big grids that can bring electricity from distant sunny and windy places.

A policy of expanding and interconnecting grids typically works against the interests of some producers, by eroding the ability of incumbents to extract rents. It also gives politicians less scope to interfere with their national and local energy systems. But it is vital if renewables are to flourish. ■

Espionage

What laws in the jungle?

Regulating espionage will always be tricky. But democracies could do better



SPYING typically involves stealing secrets by lying and cheating. How then should law-governed states deal with this lawless branch of government? Technology is making old rules increasingly inadequate (see page 53). Modern life leaves abundant electronic clues, which businesses already exploit for profit. Intelligence agencies can and should use such data to monitor terrorists, criminals and spies, as well as hostile states.

But the advent of big data is blurring old definitions. Simply collecting and analysing the “metadata”—the outward details of communications, but not their content—reveals much about an individual. It is ever-harder to distinguish information involving foreigners (usually fair game) and a country’s own people (whose privacy should usually be protected). A lack of public trust compounds the problem. Spooks may shrug at the naivety and suspicion displayed in the reaction to revelations by Edward Snowden, who worked at America’s National Security Agency (NSA). But the public pays the bills. Spymasters need to rebuild public trust. That requires tighter oversight.

Take the haystack to find the needle

The case for intelligence is as powerful as ever. Democracies are stronger when they are properly defended from internal and external threats. True, spying on allies can backfire (see page 24). But allies that publicly protest about America’s eavesdropping also know how dependent they are on the intelligence provided by America’s mighty agencies. Having squawked loudly about allegations of American snooping, Germany now grudgingly acknowledges the pluses. Effective intelligence work requires the wholesale collecting, warehousing and sifting of electronic information for patterns and clues. No law-governed state would accept no-go areas in the real world; they should not be tolerated online either.

But the deeper the intrusion by the state, the stronger

should be the safeguards. National preferences vary: France, notoriously tolerant of its spies, has just approved a new law giving them sweeping powers. Elected politicians must set clear rules about what information can be collected and how it should be handled—and be held accountable for their decisions. When computers detect suspicious activity, judges should decide whether further investigation is justified. As with a warrant to search a suspect’s home, agencies should have to have a warrant to search a suspect’s data.

Even so, the potential for errors is high. What happens if, say, a foreigner is placed on a no-fly list because a computer draws a mistaken inference? A country may deny visas to people on a hunch, but it should not be able to ruin their lives. Those on no-fly lists need some route to speedy redress.

In general, the model is America’s mix of judicial, political and legislative oversight. Britain, for instance, could adopt America’s practice of getting judges, not politicians, to approve serious intrusion into citizens’ privacy.

But even America’s system needs work. Lawmakers lack a proper sanction against spooks who obstruct or mislead them. They should have the right to pass a career-killing no-confidence vote in a senior official. The NSA, the main signals-intelligence organisation, should be led by suits, not uniforms.

And spies cannot have everything. America’s FBI wants a new law forcing firms running encrypted messaging services to store, and if necessary hand over, code-cracking keys. But that would be ineffective: users would switch to foreign providers. It might also be dangerous. American officialdom’s record on protecting sensitive data is dire. A breach in the Office of Personnel Management (OPM) led to hackers (probably Chinese) stealing information on at least 20m federal employees. America’s spookdom is bloated. Agencies overlap murkily with private firms. An incompetent contractor was the source of the OPM breach; Mr Snowden was a contractor, too.

There is a natural limit to how much secret work can be revealed in public. Intelligence oversight will always be imperfect. But that is grounds for prudence, not paranoia. ■

The way forward for Greece

Your verdict on the Greek deal missed the big picture ("Pain without end", July 18th). Last autumn Greece was at last on the mend, with annualised GDP growth of 2.3% from the first quarter to the third and a rebound in employment of 2.4% year-on-year in the fourth. Then came Alexis Tsipras and Yanis Varoufakis. Within six months the radical-left gamblers of Athens had driven capital worth a third of Greece's annual GDP out of the country, bust the banks and pushed the economy back into a deepening recession.

The only way to prevent Greece from turning into another populist's paradise like Venezuela, but without the oil, was to stop the Syriza reform reversals. That is what the deal is about. That is why it is a good deal, warts and all. The only big mistake Europe has made this year is that it did not force Mr Tsipras to meet reality in February. That would have spared Greece a lot of pain and contained the damage for which euro-zone taxpayers and Greek pensioners now have to pick up the tab.

And before writing too much about excessive austerity, please remember that the €35 billion (\$38 billion) for investment, which Greece can now claim from Europe over five years if its administration gets its act together, exceeds the fiscal savings Greece has been asked to find.

The net deal actually offers a slight if probably backloaded fiscal stimulus for Greece over time, with a sensible redirection of funds from public consumption to public investment.

HOLGER SCHMIEDING
Chief economist
Berenberg
London

"Austere? Your word, not ours" (July 18th) is correct that the origin of "austere" is the Greek *austeros*. That word can mean severe, strict, hard, austere, rigorous, stringent, harsh, uncharitable, stern, grim, rigid, sharp, exacting, unbending and dour, but it does not mean

"bitter", as you state. The Greek word for bitter is *pikros*.
GEORGE MANDANIS
San Rafael, California

What drives Uber's market?

Schumpeter's take on Uber suggests that people are signing up to become drivers because it is a wonderful business (July 4th). Most drivers I have spoken to say they need the work because of stagnant wages and a lack of full-time employment. In short, people are desperate to make ends meet and Uber provides a much-needed lifeline.

KEN MUNDY
Los Angeles

Strictly speaking, Uber is not a "ride-sharing service". Ride-sharing implies that the driver is going to a certain destination along a certain route, and that passengers ride with him to share expenses. When I take Uber the driver is being paid to take me to my destination but has no interest in going there himself. It is an unregulated taxi service, not ride sharing.

ANDREW LAURENCE
Alameda, California

A difficult relationship

The feud between the people of Iran and America started, not in 1979, as you suggest, but in 1953, when the democratically elected government of Iran under Mohammad Mosaddegh was overthrown by the CIA ("Hiyatollah!", July 18th). This was at the request of the British government following pressure from the Anglo-Iranian Oil Company (AIOC) and led to 26 years of oppression of Iranians under the Shah, supported by America, paving the way for theocratic revolution.

Mosaddegh's crime had been to nationalise the AIOC when it refused to be audited. This confirmed the suspicion that there had been gross exploitation of Iran's oil with only a tiny percentage of AIOC's profits going to Iran and the rest to Britain.

Imagine how the Middle East would look now if over the past 62 years Iran had

developed as an increasingly mature democracy and become a wealthy economic powerhouse with a well-educated, intelligent, liberal population. No hostages, no nuclear programme, no support for extremists, possibly no Islamic State.

TIM LEWIS
Narberth, Pembrokeshire

"The more Iran trades with the world, the more susceptible it will grow to international pressure." What, like Russia and China?

R. MICHAEL CHILDS
Charlotte, North Carolina

Hiyatollah!



I noted your Hiyatollah! cover with some disquiet. I hope you never have cause to publish an issue with Binyamin Netanyahu on the cover under the banner Hitoldyas!

MARK DECYK
Toronto

Israeli ties won't always bind

It is too simplistic to argue that "the rocky relationship" between Binyamin Netanyahu and Barack Obama is "the main factor poisoning ties between" Israel and America ("Lost in translation", July 11th). That ignores the broad range of serious and substantive issues that divide Tel Aviv and Washington and the fact that many more Americans now wonder whether unquestioning support for Israel under all circumstances is in the best interests of the United States.

In fact, the response of official Israel and a number of its friends and proxies in America to these growing critical sentiments is a further risk to ties between the two countries.

MICHAEL MONTESANO
Tokyo

Yes, in your back yard

The discussion on finding space to build new homes in Britain is focused on development in the green belt or on brownfield sites ("Two birds with one stone", July 18th). An alternative would be to redevelop existing districts. Many areas consist of small, old houses with low energy efficiency and an inability to connect to a smart electricity grid or fast internet. Building modern apartment blocks in these areas would allow for a greater density of people without reducing the use of green space.

A quick calculation on population density in the London area confirms that 1.5m houses can fit in the green belt. But we could build 2m homes in existing districts by redeveloping them to at least the density provided by a four-storey apartment building. Since more houses fit in the same area, the purchase of old homes and development of new apartments would be self-financing.

The productivity gains from replacing old houses with modern, energy-efficient and smartgrid-connected apartments in areas where people want to live close to city centres should be self-evident.

WESSEL VERMEULEN
Research fellow
Department of economics
Oxford University

Proud, but doubtless foolish, that Boris Johnson is, I hope London's mayor will be supine, rather than "prostrate" when he is "steamrollered" at the site of the new third runway at Heathrow ("Now get on with it", July 4th). Although the result will be the same, it might be more entertaining for a watching television audience.

PHILIP LEA-WILSON
Chalfont St Giles,
Buckinghamshire ■

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Executive Focus



The Norwegian Refugee Council (NRC)
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- Conduct and Process Design of Mediation, Facilitation and Dialogue (multiple positions)

The United Nations Department of Political Affairs, under its Policy and Mediation Division, maintains a Mediation Support Unit (MSU) which provides support to senior UN envoys and partners engaged in mediation and peacemaking efforts, and serves as a repository for expertise and knowledge in this field. An essential component of the MSU is the Standby Team of Senior Mediation Advisers. The team consists of eight full-time experts, all of whom have significant experience in operational mediation contexts. It functions as a rapid response mechanism and provides expert thematic advice to the UN and its partners across the world. In sum, this mechanism seeks to get the right expertise to the right places at the right time.

The team's positions are full-time one-year appointments, contractual obligation is exclusive, and team members are expected to give primary and sole commitment to the UN during their tenure. All applicants are expected to have some mediation process design skills, and are expected to demonstrate competence in mainstreaming gender and protection into their work. The UN reserves the right to change the thematic composition of the team depending on its requirements at the time of recruitment. Standby Team members may be assigned more than one specialization from the list above.

The experts are based in their respective countries of residence and deploy to the field on short notice. The appointments include competitive remuneration commensurate with level of experience required. Qualified applicants with French and/or Arabic language skills are strongly encouraged to apply.

To apply online for the above vacancies, details can be found at: <http://goo.gl/JqeP9P>

By submitting an application, candidates agree that their details may be shared between UN DPA and NRC for recruitment purposes. Interviews will be held in November 2015. Contract start date: 22 February 2016.

Closing date: End of day CEST (Norway) 20 September 2015
Late or email applications will not be accepted

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Prior overseas work experience in challenging environments is highly desirable. Foreign language capabilities are an important factor. Spanish fluency is necessary for resident work in Latin America. Russian, Ukrainian and French are highly desirable. Candidates must be U.S. citizens or U.S. resident aliens.

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Executive Focus



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The new IIC will concentrate on operations in defined Priority Business Areas: 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 **5 strategic Executive leaders for the most senior positions of the consolidated IIC private sector development entity, all reporting to the IIC General Manager (the recruitment of the IIC General Manager is currently underway)**:

Chief Investment Operations (CIO): responsible for the institution's operations by maintaining and developing the IIC portfolio, aimed at maximizing development impact through non-sovereign guaranteed priority business areas within a framework of long-term financial sustainability. Directs, with the assistance of Chief direct reports, a team comprised of approx. 235 full-time equivalents (FTEs). The Department is structured in business-embedded areas, such as: Products, Segments, Portfolio Management, and Environment, Social and Governance Safeguards.

Chief Strategy, Development Effectiveness and Programming (CSO): responsible for establishing an over-arching framework for the efficient and effective delivery of services within the context of the IIC's diverse business products, portfolio, and geography and along the priority business areas. Works to ensure that synergies between the IIC and IDB are reflected throughout the new organization. Directs a team of approx. 50 FTEs. The Department is structured in the following

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The successful candidates must be seasoned executives with experience in Latin America and the Caribbean and with 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.

To see the complete terms of reference and eligibility requirements, please go to www.iic.org/Executivepositions The page will take you to the individual terms of reference for the 5 positions and the instructions for applying. Interested candidates should send a letter of interest and updated CV, indicating the position(s) of interest.

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".

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The closing date for receipt of applications is 31 August 2015.

Executive Focus

Director (grade AD14)

European Institute of Innovation and Technology, Budapest
COM/2015/20008

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Please consult the Official Journal C222A of 7/7/2015 for the detailed vacancy notice, in particular the eligibility and selection criteria.

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Learning unleashed

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Where governments are failing to provide youngsters with a decent education, the private sector is stepping in

THE Ken Ade Private School is not much to look at. Its classrooms are corrugated tin shacks scattered through the stinking streets of Makoko, Lagos's best-known slum, two grades to a room. The windows are glassless; the light sockets without bulbs. The ceiling fans are still. But by mid-morning deafening chants rise above the mess, as teachers lead gingham-clad pupils in educational games and dance. Chalkboards spell out the A-B-CS for the day. A smart, two-storey government school looms over its ramshackle private neighbour. Its children sit twiddling their thumbs. The teachers have not shown up.

Recent estimates put the number of low-cost private schools in Lagos, Nigeria's commercial capital, as high as 18,000. Hundreds more open each year. Fees average around 7,000 naira (\$35) per term, and can be as low as 3,000 naira. By comparison, in 2010-11 the city had just 1,600 government schools. Some districts, including the "floating" half of Makoko, where wooden shacks stand on stilts above the water, contain not a single one.

In the developed world private schools charge high fees and teach the elite. But Ken Ade is more typical of the sector, not just in Nigeria but worldwide. In 2010 there were an estimated 1m private schools in the developing world. Some are run by charities

and churches, or rely on state subsidies. But the fastest-growing group are small low-cost schools, run by entrepreneurs in poor areas, that cater to those living on less than \$2 a day.

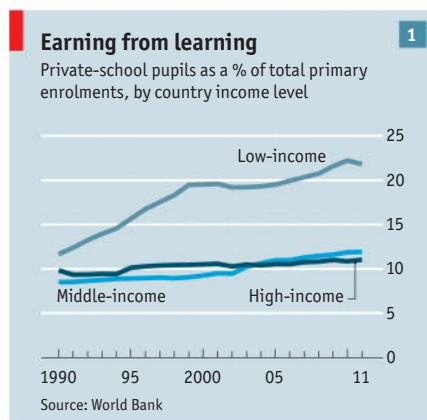
Private schools enroll a much bigger share of primary-school pupils in poor countries than in rich ones: a fifth, according to data compiled from official sources, up from a tenth two decades ago (see chart 1). Since they are often unregistered, this is sure to be an underestimate. A school census in Lagos in 2010-11, for example, found four times as many private schools as in government records. UNESCO, the UN

agency responsible for education, estimates that half of all spending on education in poor countries comes out of parents' pockets (see chart 2, next page). In rich countries the share is much lower.

One reason for the developing world's boom in private education is that aspirational parents are increasingly seeking alternatives to dismal state schools. In south and west Asian countries half of children who have finished four years of school cannot read at the minimum expected standard (see chart 3, next page). In Africa the share is a third. In 2012 Kaushik Basu, now at the World Bank but then an adviser to India's government, argued that India's rapidly rising literacy rate was mostly propelled by parents spending on education to help their children get ahead. "Ordinary people realised that, in a more globalised economy, they could gain quickly if they were better educated," he said.

Many poor countries have failed to build enough schools or train enough teachers to keep up with the growth in their populations. Half have more than 50 school-age children per qualified teacher. And though quite a few dedicate a big share of their government budgets to education, this is from a low tax base. Some money is siphoned off in scams such as salaries for teachers who have moved or died, or funding for non-existent schools. Since 2009 Sierra Leone has struck 6,000 fake teachers off its payroll by checking identities before paying salaries. A national survey in Pakistan recently found that over 8,000 state schools did not actually exist.

State schools are often plagued by teacher strikes and absenteeism. In a slum in eastern Delhi where migrants from



► north-east India cluster, pupils split their days between lessons in small private schools in abandoned warehouses that charge 80-150 rupees (\$1.25-2.35) a month, and a free government school around the corner, which supplies cooked midday meals and a few books, but little teaching. When researchers visited rural schools in India in 2010 they found that a quarter of teachers were absent.

A study by the World Bank found that teachers in state-run primary schools in some African countries were absent 15-25% of the time. "The public teachers don't feel obligated coming to school," says Emmanuel Essien, a driver who hustles day and night to send his youngsters to a private school in Alimosho, a suburb of Lagos. "If they come, they might just tell the student to go hawking. They tell you that your children have to attend an extra class, or buy an extra book, just so they can make money in their own pocket."

Privatising Parnassus

Given the choice between a free state school where little teaching happens and a private school where their children might actually learn something, parents who can scrape together the fees will plump for the latter. In a properly functioning market, the need to attract their custom would unleash competition and over time improve quality for all. But as a paper by Tahir Andrabi, Jishnu Das and Asim Ijaz Khwaja published by the World Bank explains, market failures can stop that happening. Choosing a private school can be a perfectly rational personal choice, but have only a limited effect on overall results.

One such failure is that parents often lack objective information about standards. Countries where state schools are weak rarely have trustworthy national exam systems. To attract clients, private schools may exaggerate their performance by marking generously. Mr Essien says he has taken to testing his children himself to cross-check their progress. Though paying customers like him can hold private-school teachers to account, making them more likely to turn up and try hard, good teachers cannot be conjured out of thin air.

Matters are further complicated by the fact that education is to a great extent a "positional good": the aim is to get a job or university place, for which it is enough to beat the other candidates, rather than reach the highest possible absolute standard. Especially in rural areas where there is unlikely to be much choice, being just a bit better than public schools is enough to keep the clients coming, says Joanna Harma of the Centre for International Education at the University of Sussex. And sheltered from market forces, those public schools have no incentive to improve.

That means school choice can "sort" children into different types of schools: the

most informed and committed parents colonise the better ones, which may then rely on their reputations to keep their position in the pecking order. Research from several parts of Africa and south Asia finds that children in low-cost private schools are from families that are better-off, get more help from parents with homework and have spent more time in pre-school. A round-up of research, much of it from south Asia, found that their pupils did better in assessments, though often only in some subjects. In the few studies that accounted for differences in family background and so on, their lead shrank.

Chile's voucher scheme, which started in 1981 under the dictatorship of General Augusto Pinochet, aimed to enable poor students to move from bad public schools to good private ones and to raise standards by generating competition between the two. Today 38% of pupils are in state schools, 53% in private ones that accept vouchers and 7% in elite institutions that charge full fees. In the 1990s a post-Pinochet centre-left government allowed subsidised schools to charge top-up fees. They can also select their pupils by ability.

Chile does better than any other Latin American country in PISA, an international assessment of 15-year-olds in literacy, mathematics and science, suggesting a positive overall effect. But that is hardly a ringing endorsement: all the region's countries come in the bottom third globally. And once the relatively privileged background of private-school pupils is taken into account, says Emilia Vegas of the Inter-American Development Bank, state schools do better, especially since they serve the hardest-to-teach children.

Where private schools trounce state ones is in cost-effectiveness. A recent study in the Indian state of Andhra Pradesh gave vouchers for low-cost private schools to

Outclassed

Children who reached the expected standard in reading after completing four school years, 2013, %



Sources: UNESCO; *The Economist*

around 6,000 randomly chosen pupils. Four years later they were compared with applicants who did not receive the vouchers. Both groups did equally well in mathematics and Telugu, the local language. But private schools had spent less time on these subjects in order to make space in the curriculum for English and science, in which their pupils did better. And spending on each pupil was only around a third that in the state sector. Lagos state spent at least \$230 on each child it put through primary school between 2011 and 2013, public data suggest, around twice as much as a typical private school charges.

Marks for effort

A centre-left government in Chile is now unwinding Pinochet's reforms. One of its changes is to bar for-profit schools from the voucher scheme. The new standard-bearer for market-based education reform is the Pakistani province of Punjab. Nationally, 25m children are out of school, and reformist politicians are turning to the private sector to expand capacity quickly and cheaply. To make the market work better, they are exploring ways to give parents more information about standards and to help successful schools grow.

Authority over education is devolved to Pakistan's four provinces, and Punjab's energetic chief minister, Shahbaz Sharif, the brother of the prime minister, Nawaz, has decreed that the government will not build any of the new schools needed to achieve its 100% enrolment target for school-age children by 2018. Instead money is being funnelled to the private sector via the Punjab Education Foundation (PEF), an independent body with a focus on extremely poor families.

One scheme helps entrepreneurs set up new schools, particularly in rural areas. Another gives vouchers to parents living in slums to send children who are not in

Parents out of pocket

Spending on education

As a % of GDP, 2012*

■ Private ■ Public

GDP per person, 2014, \$'000



Sources: UNESCO; World Bank

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► school to PEF-approved institutions. All the places in some schools have also been bought up. Those schools cannot charge fees and must submit to monitoring and teacher training. Although the funding per pupil is less than half of what is spent by state schools, results are at least as good, says Aneela Salman, PEF's managing director. "The private sector can be much more flexible about who it hires, and can set up schools quickly in rented buildings and hire teachers from the local community."

Crucially, the province is also improving oversight and working out how to inform parents about standards. It has dispatched 1,000 inspectors armed with tablet computers to conduct basic checks on whether schools are operating and staff and children are turning up. They have begun quizzing teachers, using questions from the exams they are meant to be teaching their pupils to pass. The early results, says one official grimly, are "not good".

In a joint study by the World Bank, Harvard University and Punjab's government, parents in some villages were given report cards showing the test scores of their children and the average for schools nearby, both public and private. A year later participating villages had more children in school and their test scores in maths, English and Urdu were higher than in comparable villages where the cards were not distributed. The scheme was very cheap, and the improvement in results larger than that from some much pricier interventions, such as paying parents to send their children to school.

PEF now educates 2m of Punjab's 25m children, a share likely to grow by another million by 2018. Meanwhile the number of state schools has fallen by around 2,000 as some have been merged and others closed. Such a wholesale shift to private-sector provision would create a storm of protest in Britain, whose Department for International Development is backing Punjab's reforms. But there are few signs of anxiety in a country where many parents aspire to send their children to a private school and the country's recent Nobel laureate, the education activist Malala Yousafzai, is the daughter of a private-school owner.

Schooling on tick

NGOs and education activists often oppose the spread of private schools, sometimes because they fear the poorest will be left behind, but often because of ideology. In October Kishore Singh, the UN special rapporteur on the right to education, told the UN General Assembly that for-profit education "should not be allowed in order to safeguard the noble cause of education". Others, seemingly more reasonably, demand greater oversight of the sector: in a resolution on July 1st the UN Human Rights Council urged countries to regulate and monitor private schools.

But where governments are hostile to private schools, regulation is often a pretext to harass them. And many of the criteria commonly used, such as the quality of facilities, or teachers' qualifications and pay, have been shown by research in several countries to have no bearing on a school's effectiveness. In recent years many poor countries staffed state schools with unqualified teachers on temporary contracts, paying them much less than permanent staff. In India, Kenya, Pakistan and Mali their pupils learn at least as much as those taught by permanent teachers.

Many small private schools do not try to get on any official register, knowing that they have no chance of succeeding, not least because of widespread corruption. A federal law from 2009 means that all private schools in India must be registered.



Crammed in, cramming

This means satisfying onerous conditions, to which states have added their own. They must have access to playgrounds (immediately barring almost all those in urban slums), and qualified teachers who are paid salaries that match government-run schools. The state of Uttar Pradesh limits tuition-fee increases to 10% every three years. The main effect of this blizzard of bureaucracy has been to provide corrupt officials with a new excuse to seek bribes.

The need to fly under the radar means that schools lack access to credit and cannot grow or reap economies of scale. One small study in rural India found that a quarter of private schools visited by researchers had closed down when they returned a year later. Some will have been sound businesses brought down by cash-flow problems, as parents with precarious, low-paid jobs struggled to pay the fees. Others will have been run by people with an enthusiasm for education, but no busi-

ness acumen.

Another study in Punjab shows how much the lack of credit hamstrings private schools. All those in some randomly selected villages were given a \$500 grant and asked to submit proposals for using the money to improve, just as a bank might demand a business plan in return for a small loan. Audits a year later found that the grants had been entirely spent on school improvements and test scores had risen more than in a control group of villages.

A promising development is the spread of low-cost for-profit school chains in big cities in Africa and south Asia. Some started by catering to better-off families and are now moving into the mass market. Their founders have more in common with the highly educated young enthusiasts who start charter schools in America than the owners of the single institutions that dominate the sector, says Julia Moffett of the Future of Learning Fund, which backs education entrepreneurs in Africa.

Bridge International Academies, which runs around 400 primary schools in Kenya and Uganda, and plans to open more in Nigeria and India, is the biggest, with backers including Facebook's chief executive, Mark Zuckerberg, and Bill Gates. Omega Schools has 38 institutions in Ghana. (Pearson, which owns 50% of *The Economist*, has stakes in both Bridge and Omega.) Low-cost chains with a dozen schools or fewer have recently been established in India, Nigeria, the Philippines and South Africa.

Bridge's cost-cutting strategies include using standardised buildings made of stacked shipping containers, and scripted lessons that teachers recite from hand-held computers linked to a central system. That saves on teacher training and monitoring. An independent evaluation is under way to find out whether such robo-teaching is better than the alternative—too often ill-educated teachers struggling through material they do not understand themselves. The potential of technology to transform education is unlikely to be realised in state institutions, where teachers and unions resist anything that might increase oversight or reduce the need for staff.

Another trend, says Prachi Srivastava of the University of Ottawa, is the emergence of providers of auxiliary services for private schools, including curriculum development, science kits and school-management training. Credit facilities are also cropping up. The Indian School Finance Company, funded by Grey Ghost Ventures, an Atlanta-based impact investor, has expanded to six Indian states since it started in 2009. The IDP Rising Schools Programme, a small-loans programme in Ghana, also offers its clients teacher training. Private schooling may turn out to be good business for these firms and their investors—and, if governments allow it to flourish, for pupils, too. ■



Renewables

Wondering about wind

BLOCK ISLAND, RHODE ISLAND

America's first offshore wind farm is the test bed for a new industry

GWYNETH WILSON first spent summer on Block Island 58 years ago. She became a year-round resident five years ago because she loves island life, except for her high electricity bills. The island, which is about a dozen miles (20km) off the coast of Rhode Island, is not connected to the mainland's grid and, therefore, energy costs are among the highest in the country. The 1,000 or so year-round residents and 15,000 summer visitors rely on expensive, noisy, diesel-fuelled generators for power. Millions of litres of diesel are brought by lorry via ferry to the island every year. According to some islanders, brownouts (periods of low power or none at all) are common. But Ms Wilson is hopeful that all this is about to change; because Block Island is soon to be home to North America's first offshore wind farm.

On July 26th the first "steel in the water" for the foundation of the small offshore wind farm was installed three miles off the coast (see picture above). The five turbines, each with six-megawatt capacity, will be working by autumn 2016. Deepwater Wind, the company behind the project (which is privately financed at a current cost of \$250m), expects the farm to cut energy bills for the island by 40%. The farm will produce more energy than the island needs, enough for 17,000 homes, so surplus energy will be used on the mainland.

Another offshore wind project with 130 turbines near Cape Cod, Massachusetts, has stalled because of lawsuits and regula-

tory troubles. But in Rhode Island, so far, this has been avoided. The firm had to get permits from nine separate federal and state agencies. It also received federal tax credits for investment and production, which were needed to get bank loans. The project has support from environmentalists, fishermen and a local Indian tribe.

Block Island is the pilot programme for the nascent American offshore wind industry. If successful, Deepwater will develop a farm with 200 turbines, between Martha's Vineyard and Block Island. The Bureau of Ocean Energy Management, which oversees renewable projects in federal waters, has issued nine commercial offshore wind leases to companies all along the eastern seaboard. If these areas are built to capacity, some 3,000 offshore

Also in this section

24 The Jonathan Pollard case

26 Armed preachers

26 Alexander Hamilton

27 Planned Parenthood

27 Exercise as a luxury

28 The Great Lakes

30 Lexington: Living with inequality

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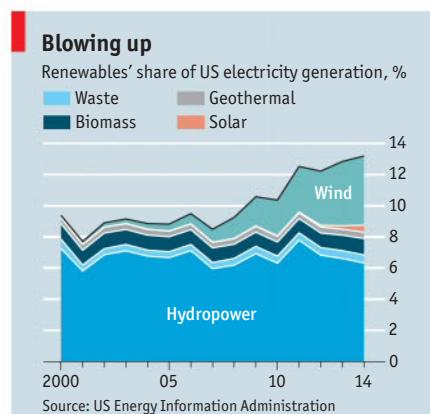
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turbines could generate enough energy to light up the equivalent of New Jersey. More offshore wind projects are in the works in New Jersey, near Atlantic City, as well as in North and South Carolina and New York.

Block Island joins a growing wind industry in America (see chart). Wind is expensive. Depending on the region, it is between 15% and 200% dearer than fossil fuel, according to the Institute for Energy Research, a right-leaning group. Yet more than 100 projects are under construction in 24 states. Most are to be found in Republican places such as Texas, Oklahoma, Kansas and North Dakota. Last year, wind generated 4.4% of the country's electricity (solar power generates less than 1%), but a recent Department of Energy report said that wind alone could supply 20% of the country's electricity by 2030.

The federal production tax credit is the main incentive, but 29 states have some sort of mandate. Most dictate that between 10% and 25% of electricity must come from renewable energy. California's mandates are among the highest: 33% by 2020. Utility firms are on track to meet that goal. State lawmakers are probably going to raise California's mandate to 50% by the end of the year. Other states are considering rolling back their standards. North Carolina wants to freeze its mandate. On May 28th Sam Brownback, Kansas's Republican governor, signed a law rescinding the state's renewable-energy mandates and replacing them with voluntary goals.

At present 39 states have some sort of land wind project. Wind and other renewable, such as solar panels, have had much support from the Obama administration, beginning with stimulus funding in 2009 from the \$800 billion American Recovery and Reinvestment Act. It was designed to kick-start the economy by investing in "shovel-ready" projects. Green energy may have received as much as \$90 billion. ►



▶ Plenty of this went on boondoggles. SoLyndra, a maker of solar panels which received \$535m in federal money and loan guarantees, filed for bankruptcy in 2011. Abound Solar, which received \$400m, also filed for bankruptcy. Although there were some famous failures, the green stimulus worked better for wind-related projects. The country's capacity to generate power from wind increased 60% in two years. The stimulus boosted manufacturing, too. Before it, wind turbines were mostly made from imported parts. Now about 60% of each turbine is made in America.

Congressional support for renewables is strong on both sides of the aisle, as long as climate change is not part of the conversation. Lamar Alexander, a Republican senator from Tennessee, describes wind turbines as the "energy equivalent of going to war in sailboats when nuclear ships are available". But on July 21st, the Senate Finance Committee voted 23-3 to extend the renewable-energy production tax credit.

Gridlocked

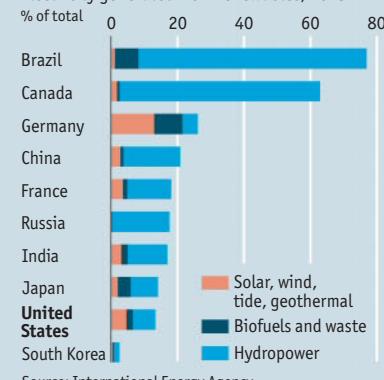
Increasing the share of electricity generated by renewables requires not only further subsidy, but putting in place backup generation capacity, which at the moment means gas-fired power plants. Improvements to the ageing power grid's transmission infrastructure are also needed.

America has three major power grids, the Eastern Interconnection, Western Interconnection and the Electric Reliability Council of Texas (or ERCOT). Supply and demand have to be kept in balance on each one to avoid blackouts and brownouts, and there are only a few connectors between them to help with this. Renewables work best across large grids where, with luck, somewhere the wind is always blowing or the sun shining.

Tiny Rhode Island, nicknamed the Ocean State, is hoping the Block Island wind farm will turn it into a renewable energy behemoth. It may only be 48 miles long, but it has a 400-mile shoreline. And a lot of wind. ■

Watts the problem?

Electricity generated from renewables, 2013



The Jonathan Pollard case

Burn after reading

The fate of an Israeli spy shows how two allies misunderstand each other

BEFORE Edward Snowden and Chelsea Manning brought data theft into the digital age, there was Jonathan Pollard. Mr Pollard was a naval intelligence analyst who in 1987 was convicted of supplying vast quantities of secret information to Israel. According to one report, the physical documents he stole would fill a room six feet by six feet by ten feet (about 5 cubic metres). So brazen was his theft that security guards held the doors for him as he moved papers to his car.

Since his arrest in 1985, Mr Pollard has been held in federal prison on a life sentence for spying. By the 1990s he had become a *cause célèbre* for Israeli supporters, who argue that he was not a traitor, but a patriot helping a trusted ally. At various times the possibility of clemency and early release seemed on the horizon, only to be withdrawn. Now Mr Pollard has been granted parole; in November he will be freed. The decision, announced on July 28th, came two weeks after America and five other world powers struck a deal with Iran fiercely opposed by Israel. The result may be to revive awkward questions about the relationship between America and one of its closest allies.

The damage done by Mr Pollard's spying—and the motivations behind it—have long been in dispute. Because he pleaded guilty, the allegations were never raised in open court. Mr Pollard's supporters, such as Alan Dershowitz, a Harvard Law School professor who briefly worked as his lawyer, argue that his spying did not hurt America and that his life sentence was unjustly long. American intelligence chiefs counter that Mr Pollard was uniquely damaging: some of what he gave to Israel ended up in Soviet hands. They say that Mr Pollard was motivated not by patriotism but by ego and greed—Israel paid him handsomely, and he spent the money on cocaine, alcohol and expensive meals. He tried to sell documents not only to Israel, but also to several other countries.

In 1998, when reports suggested that President Bill Clinton was considering granting Mr Pollard clemency as a gesture to Israel to encourage the Middle East peace process, it created a storm of anger. George Tenet, then director of the CIA, threatened to resign; several former defence secretaries wrote a letter arguing that releasing Mr Pollard would "encourage those who would harm our country". The idea of an early release was swiftly with-



Pollard, collared

drawn—as it has been on other occasions since, despite considerable pressure from the Israeli government.

Officials are adamant that Mr Pollard's parole now is entirely technical, and the timing, so soon after the deal with Iran, merely a coincidence. Though convicted in 1987, with time spent on remand, Mr Pollard will have served 30 years in November; he is hardly likely to repeat his crime and so he is eligible for parole. Binyamin Netanyahu, Israel's prime minister, says he is "looking forward" to Mr Pollard's release. But he stopped short of claiming credit for it; his justice minister wrote that the release was nothing to do with the "devastating agreement between the United States and Iran".

Mr Pollard must remain in America for five years after his release and will then probably move to Israel, where he was granted citizenship in 1995. Relations between Israel and Barack Obama's government remain at a very low ebb; the question of spying remains open. Intelligence co-operation between America and Israel is much less than that between the "Five Eyes": Australia, Canada, New Zealand, Britain and America. In February American officials stopped briefing Israeli counterparts on the talks with Iran, arguing that Israeli politicians were using the information to undermine negotiations. Mr Pollard's tale is a reminder that suspicion between the two allies has a long history. ■

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Mass shootings

God, good guys and guns

CHARLOTTE, NORTH CAROLINA

An understandable impulse to self-defence is nevertheless mistaken

HOSPITABLE, diminutive and currently reliant on a wheelchair, Brenda Stevenson, pastor of the New Outreach Christian Centre in Charlotte, North Carolina, makes an improbable gunslinger. So averse was she to weapons when her children were young that she wouldn't let them play with water pistols. But "there is a time and a season for all things." Mrs Stevenson recently informed worshippers that "two new members are joining the church": Smith & Wesson.

Her anxiety is understandable. Known for feeding the homeless, her centre attracts some unsavoury types. Its previous building burned down 20 years ago, the first of many chapels destroyed in a spate of suspected arsons in the state in the 1990s. A nearby Baptist church stands partially charred and collapsed, one of several black churches torched in the South since a racist massacre at a black church in Charleston in June (Mrs Stevenson's congregation is mixed). That finally prompted her to take the training course required to carry a concealed weapon. She plans to keep her gun in a Bible-shaped case, Wild West-style, when she preaches; it is hard to imagine her using it, and she hopes she never has to.

Churches are scarcely the only targets of murderous rampages. After the atrocity in Charleston came an attack on two military facilities in Tennessee; five servicemen died. A double killing at a cinema in Louisiana on July 23rd, by a man with a history of mental disorder, highlighted the ramshackle system of background checks for gun-buyers. Statistics support the impression created by this grim sequence: mass shootings have become more common in America, averaging one a day this year according to the Mass Shooting Tracker, an online record that includes multiple injuries as well as fatalities.

Gun lobbyists and their allies say the answer is for more law-abiding Americans to carry guns in colleges, or shopping malls, or churches (many states allow guns in houses of worship, either expressly or under general firearms rules, if religious officials consent). Mike Huckabee, a Republican presidential candidate, suggested more armed worshippers would have meant fewer deaths in Charleston. Like Mrs Stevenson, others have already reached that conclusion: Chuck Chadwick, of the Texas-based National Organisation for Church Security and Safety Manage-



Alexander Hamilton

Fun with federalists

The Founding Father without a dad becomes a Broadway star

HOW does a bastard, orphan, son of a whore and a Scotsman, dropped in the middle of a forgotten spot in the Caribbean, by providence impoverished in squalor, grow up to be a hero and a scholar?" So begins the opening rap in "Hamilton", a hip-hop opera about Alexander Hamilton, which is about to open on Broadway.

The co-author of the *Federalist Papers*, first treasury secretary, creator of the national bank and America's financial system, is having a moment. In addition to his musical, suggestions that Hamilton should be removed from the \$10 bill to make way for a woman brought howls from his admirers, who pointed out that if anyone is to be taken off a greenback it should be the uncouth Andrew Jackson, whose portrait adorns the \$20 bill.

Hamilton, a rather pompous sort, would probably disapprove of musicals. But his life, which came to an end on the banks of the Hudson in a duel with Aaron Burr, the sitting vice-president, is ready-made for one. The show's off-Broadway run at the Public Theatre earlier this year collected a trophy-case of awards and attracted theatre-lovers as well as Beltway types like the Clintons,

Michelle Obama and Dick Cheney (who understands about vice-presidential accidents with firearms). Advance tickets sales for the Broadway run are robust.

The musical is really two stories in one: Mr Hamilton's and America's. The songs, which mix R&B with rap and pay homage to comic operas by the likes of Gilbert and Sullivan, are catchy. A number sung by George III evokes a 1960s break-up ballad: "I'll send a fully armed battalion to remind you of my love," he croons to the colonists. The rap battles between Hamilton and Thomas Jefferson depicting clashes in fiscal policy and states' rights are particularly fine. "Man, when the British taxed our tea, we got frisky. Imagine what's gon' happen when you try to tax our whiskey."

Lin-Manuel Miranda, "Hamilton's" lyricist and composer, stars as the man himself. Mr Miranda, the son of Puerto Rican parents, clearly feels an affinity for his fellow transplant from the Caribbean (Hamilton was born on Nevis, an island about the size of Manhattan). The political history of America is sometimes simplified to a scrap between the heirs of Hamilton and of Jefferson. Right now, the federalist-in-chief seems the friskier.

ment, says demand for its programme, which includes firearms instruction, is rising, partly because of fear of Islamic State.

This impulse to self-defence in kind is natural—but mistaken. A recent FBI study of 160 public mass murders (committed or attempted) with guns between 2000 and 2013 found most ended when the assailants fled or killed themselves. In 21 instances the attacker was restrained by un-

armed people; in only one did the shooting stop after an intervention by a civilian armed with a gun (rather than by a security guard or policeman). The Violence Policy Centre, an advocacy group, points out that Americans who legally carry concealed weapons are far more likely to perpetrate mass shootings than prevent them; it counts 29 such events since 2007. And while gun-wielding bystanders rarely cur-

tail killings, they may aim badly and confuse the cops.

This dilemma is an iteration of a broader question: whether keeping guns makes people safer. A growing majority of Americans think it does—another mistaken conviction. Daniel Webster of the Johns Hopkins Centre for Gun and Policy Research says that, other factors being equal, keeping a gun at home is associated with a double or triple risk of homicide. What holds for homes is also true of states and countries: more guns mean more gun-related murders, tragic accidents and suicides.

Yet, amid the drumbeat of bloody news, well-meaning, fearful individuals take the seemingly rational decision to arm themselves. Almost all plan to be prudent with their guns. That, alas, is what everyone thinks. ■

Abortion

The tissue trade

NEW YORK

Dislike of abortion and support for Planned Parenthood should go together

EVEN ardent advocates of a woman's right to an abortion may grow queasy from watching a series of undercover videos of meetings with representatives from Planned Parenthood, a national group that offers reproductive-health services, including abortions. In order to harvest hearts, lungs and "as many intact livers as possible" from aborted fetuses, providers use ultrasound to make sure they do not "crush that part," explains Deborah Nucatola, a medical director for the group, between sips of wine. Another shows a medical executive named Mary Gatter apparently negotiating the sale of fetal "specimens".

The videos come courtesy of the Centre for Medical Progress, an anti-abortion pressure group. The three released since July 14th have been watched millions of times, and the group promises "thousands of hours" more. It says the videos show that Planned Parenthood is running a "black market for baby parts", which is illegal. Planned Parenthood denies this claim, and the recordings do not quite prove that the organisation is profiting from these transactions. But abortion providers at their health centres are apparently aware of the value of fetal tissue, which scientists need for a wide array of medical research. And the videos, with their casual talk of "suction" or a "less crunchy technique", make for powerful propaganda.

Ted Cruz, a senator from Texas, stirred crowds at an anti-abortion rally on Capitol Hill on July 28th with calls for a federal criminal investigation. Rand Paul, a sena-

Inequality and exercise

Spin to separate

Sweating on purpose is becoming an elite phenomenon

IN A darkened room at the edge of downtown Washington, DC, electronic music pulses over the speakers as a crowd of mostly sweaty young women bop up and down. Candles burn at the front and inspirational slogans cover the walls. Sadly, this is not a drug-fuelled rave, but rather a mid-afternoon spin class. It is run by Soul Cycle, which promotes the idea that riding an exercise bike to loud music is akin to entering a "soul sanctuary". The experience, which also involves awkwardly lifting weights while cycling, costs about \$35 for 45 minutes. This does not deter its well-heeled customers: "Some of the women pay a lot of money to go here", says a staff member, her eyebrows raised.

The recession of 2008 damaged many industries. One which emerged remarkably unscathed was exercise. According to figures from the International Health, Racquet and Sportsclub Association, an industry group, gym members now number 54m, up from 45m in 2009. Twice as many Americans subscribe to gyms as in the mid-1990s. Yet the population has not got visibly healthier. According to the Centres for Disease Control, a government agency, in 2013 a quarter of adults engaged in no leisure-time physical activity at all beyond the bedroom. Between 2001 and 2012, the age-adjusted proportion of the population who are obese or extremely obese grew from 36% to 41%. That increase has slowed of late,

The rich get fitter

Average time spent exercising* each week
Full-time workers, by income quintile, minutes



Sources:
American Time Use Survey; The Economist

*Working out, weightlifting, using cardiovascular equipment, yoga and aerobics

but it has not yet reversed.

The explanation of this paradox lies in who is doing the exercising (see chart). Where once "prosperous" was a synonym for overweight, being fit (and thin with it) is a marker of status. Outposts of Soul Cycle are to be found in the Hamptons and Westchester County in New York. In such places small gyms, yoga studios and the like, which make their money from hosting classes rather than through membership fees, proliferate. They advertise fitness as something close to religion. At CrossFit, which describes itself as a "word and a phenomenon", though it mostly involves weightlifting, customers are described as "athletes". Exercise is not quite yet a luxury good, but it may be getting that way.

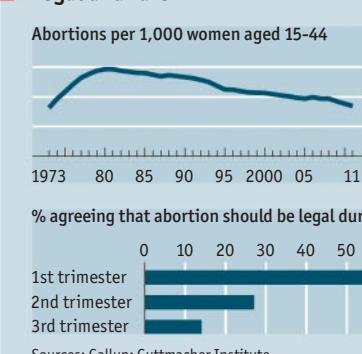
tor from Kentucky, has been keen to perk up his poll numbers by leading a fight to "strip every dollar" of government funding from Planned Parenthood, which counts on federal and state coffers for nearly \$530m of its \$1.3m annual budget. Senate Republicans plan to vote on defunding the

organisation before the August recess.

Polls show that pro-life voters are in the minority, but they punch above their weight because they care more about where politicians stand on the issue. Surveys find that most Americans support keeping abortion legal within the first weeks of conception; but this sympathy plummets once the woman enters her second trimester, and nearly disappears when she reaches her third (see chart), by which time ultrasounds offer more detailed pictures of fingers and toes. Campaigners have worked with this discomfort. Twelve states now require abortion providers to proffer details about a fetus's ability to feel pain; ten mandate an ultrasound (though it is not medically necessary); and 14 have introduced bans on an abortion 20 weeks after conception.

Defunding Planned Parenthood may seem a logical next step. But federal funding for abortion is already banned, except in cases of rape, incest or where a woman's

Legal and rarer



Sources: Gallup; Guttmacher Institute

▶ life is in danger. Moreover, much of Planned Parenthood's work involves preventing unplanned pregnancies in the first place. Of the 2.7m patients who used one of its clinics in 2013, eight in ten came for contraception. Three-quarters had incomes at or below 150% of the federal poverty level. These demographics matter because abortion trends divide by income: the rate for well-off women has dropped by nearly 30% in 20 years, whereas for poor women it has climbed nearly 20%. This is largely because poor women, with worse schooling and not much access to health care, are five times more likely to become

pregnant unexpectedly.

For every public dollar spent on contraception, the government saves \$5.68 in Medicaid spending on pregnancies, according to the Guttmacher Institute, a pro-choice NGO. Planned Parenthood reaches over a third of all qualifying patients, making it the biggest provider of these services. In addition, its clinics carried out 500,000 screenings for breast cancer and 4.5m tests for sexually-transmitted diseases in 2013. The number of abortions performed each year in America has fallen by a third since 1990. Without Planned Parenthood it would be far higher. ■

based companies. The School of Freshwater Sciences at the University of Wisconsin's Milwaukee branch is one of only three such freshwater schools in the world (the other two are in the Netherlands and in Singapore). Milwaukee calls itself the "World Water Hub". Delegations of visitors from around the world seem to believe it.

Curiously, given the abundance of the stuff, several corporate pioneers in water conservation and technology have their headquarters in the Midwest. Ford, a car-maker, has reduced the amount of water used per vehicle produced by 30% in recent years, by assigning pipes for workers' drinking water in each plant and recycling all the rest, as well as by using less water to paint its cars. Cascade Engineering, a maker of car parts in Grand Rapids, produces cheap water filters for the developing world. Kohler, a Wisconsin-based maker of loos and washbasins, and Whirlpool, a maker of washing machines and dishwashers from Michigan, have joined forces to try and eliminate waste water. Over the next couple of years the companies hope to find ways to make more homes entirely self-sustaining through the collection, storage and purification of rain and snow.

In addition to becoming a home for technological innovations, the Midwest hopes to attract water-guzzling industries such as food processing and chemicals to the Great Lakes' shores. For even if parched states such as California have their thirsty eye on the Midwest's water, the region's precious liquid cannot travel far. In 2008 the Great Lakes Compact between the eight states bordering the lakes and Canada's Ontario and Quebec banned the diversion of water beyond the Great Lakes watershed, with few exceptions. Dean Amhaus, head of the Water Council, thinks climate change will in time turn water scarcity into a more pressing concern. That could in turn transform the Midwest from economic drifting to something like its former prosperity. ■

The Great Lakes

From rustbelt to bluebelt

CHICAGO

Could water be the Midwest's ticket to economic rebirth?

CYCLING to and from work along the shores of Lake Michigan in the summer months, marvelling at the brilliant turquoise water in the morning and shades of pink, purple and deep blue in the evening, ever-varying with wind and weather, is a treat for Chicagoans. The lake makes a majestic backdrop for the city's splendid architecture, and its beaches are a meeting place for people of all classes and colours in this still segregated place.

Lake Michigan and the four other lakes in the region are also the most important asset for Chicago's home state, Illinois, and the seven other American states that border the Great Lakes, according to a vocal school of thought in the Midwest. "We wrecked our water by leading the industrial revolution," says John Austin, director of the Michigan Economic Centre. "Now we have to reclaim it to secure our future."

The Midwest's industrial boom was carried along by water. It was an important input for the car industry in Detroit, for breweries in Milwaukee, steelmakers in Gary, paper manufacturers in Muskegon and makers of furniture in Grand Rapids. Industries and communities flocked to river- and lakefronts (Chicago had both). Water lubricated the new activity—and helped transport raw materials and finished wares. The new industrialists could use water at scale—and they abused it, pouring toxic waste into the sea-like lakes.

For a long time midwesterners ignored the damage done. It took fires on the Buffalo, Rouge, Detroit and Chicago rivers, fuelled by thick, oily sludge in the lakes and their arteries, for that to change. In 2010 the Great Lakes Restoration Initiative was born to improve water quality, clean up shorelines and restore habitats and spe-

cies. Five years later, on July 28th, the Environmental Protection Agency (EPA) submitted a progress report on the initiative to Congress. It says that five areas of concern have been cleaned up, 148,000 acres of wetlands, islands and coastal habitat restored, phosphorus run-off from farms reduced and invasive species rebuffed.

More needs to be done to clean up the lakes and rivers, but attention is now shifting from conservation to the economic uses of abundant water. The Midwest has more than 20% of the world's (and 80% of America's) freshwater supply. It is trying to position itself as a centre for research and development for water-related technologies. Milwaukee's Water Council, which promotes investment, research and jobs in water technology, wants the region to be a wetter version of Silicon Valley. Its Global Water Centre is an incubator for water-



Lakeshore driven

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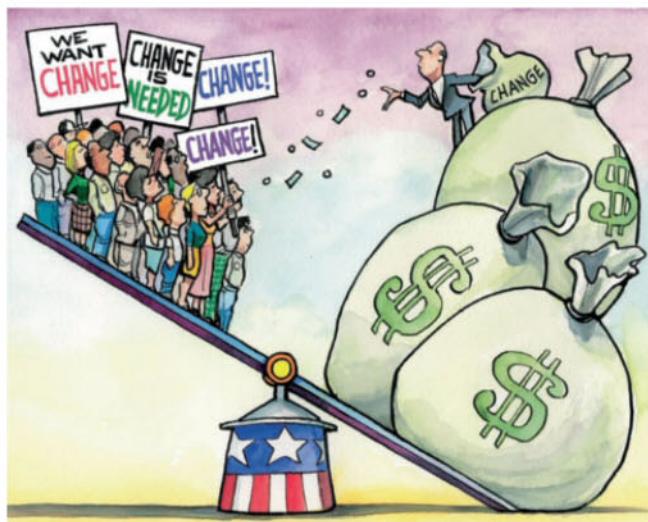
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Lexington | Living with inequality

What a good, more unequal America might look like



AS AN adornment to the many academic studies of income inequality, Lexington is compiling a miscellany of spurious anecdotes about the very rich. Entries should, ideally, sound plausible but turn to dust after a few phone calls. Recent additions to the collection include the cash bonuses supposedly paid to high-performing wives on Manhattan's Upper East Side, and the letters supposedly signed by senators recommending infants to the admissions officers of Washington kindergartens. This endeavour may sound frivolous, and it probably is, but what people are prepared to believe about the doings of the very rich is a measure of the distance between the observers and the observed.

The presidential election in 2016 will be the first to take place since economists began scrutinising tax returns to measure the increase in pre-tax income inequality over the past century. In 2012 the contest may have descended faster than Mitt Romney's car-lift into a debate about the Republican nominee's personal wealth, but it actually took place against a backdrop of crunched asset prices. In the years since, the S&P 500 has increased by 45%, with consequent gains in the wealth of those at the top. Democrats who think that campaigning on inequality next time round is a vote-winner are probably mistaken. But recast as a lament for opportunity foreclosed, a startled awakening from the American dream, anxiety about inequality is ubiquitous and bipartisan.

The serious contenders for the Republican nomination have remedies for it; their Democratic counterparts talk of little else. All agree that this is a problem that can be fixed with the right policies. What if they are all wrong?

The notion that an ever more unequal America would be a ghastly place has plenty of support. Already a presidential candidate need only secure the backing of a single billionaire to mount a credible campaign. The lone well-thatched billionaire who has gone one better and is actually running offers a vision of what truly plutocratic politics might be like. A further, more theoretical worry is that democracies may need a thriving middle to work. "We have known since Aristotle that stable constitutional democracy rests on a large, self-confident middle class," writes Bill Galston of Brookings, a think-tank. A middle class whose members find their real pre-tax incomes forever stuck in the era of prog rock would presumably not be up to the job.

Republicans lean towards improving middling incomes by boosting productivity. This is a good idea, but productivity is hard enough to measure, let alone legislate for, and in any case the link between productivity gains has weakened recently. Democrats are keener on increasing minimum wages, encouraging companies to pay employees partly in stock, and on state-funded child care. These things may be worth doing anyway, but as counterweights to globalisation and technology, the forces that have generated income inequality, they seem outmatched. No discussion of the fortunes of the top 1% or 0.1% is complete without a reference to Jay Gatsby and the roaring '20s. What these comparisons omit is that it took the Depression and a world war to compact the distribution of American incomes to a range that came to be considered normal in the second half of the 20th century.

It may be that 2015 turns out to be the peak for income inequality in America, and that in a few decades the papers published on the subject can be filed in the museum of ex-problems, along with musings on what to do with all the leisure time created by domestic appliances. It is also possible that the trend will relentlessly continue. If that is so, then the sorts of policies required to return the country to a more equal age, which might include punitive taxes on high incomes and on inheritance, would probably be impossible to implement in a society that values individual liberty as highly as America does.

Viewed this way, income inequality looks like climate change: a great impersonal force that may be irreversible. Yet people who worry about climate change think about both mitigation and adaptation. Government can and does mitigate income inequality. The CBO estimates that, once tax payments and transfers are taken into account, the post-tax incomes of Americans in the middle of the income range have grown by 35% in real terms since the late 1970s. The top 1% saw their post-tax incomes treble over the same period, still unbalanced but perhaps not dangerously so. Compounded over a longer period, though, the gap between the middle and the top would be vast, which means thinking about adaptation. What would a good, unequal society look like?

Call the geoengineers

With a shrunken tax base, America would have to become comfortable with private individuals and foundations providing public goods without a backstop from government. Organisations like the Gates Foundation would become wholly responsible for funding areas where government is already pulling back, including medical research, infrastructure and higher education.

Non-profit organisations already account for 10% of all private employment, more than banking and construction combined. That share would increase further as non-profits took on responsibility for some of the welfare programmes provided by government. The state would be left funding those things that nobody else wanted to pay for, like Social Security, and those where the idea of private ownership is troubling, such as the police and the armed forces. In an America that gave so much discretion to the very wealthy to shape society, it would be desirable to write campaign-finance rules that reduced their influence over elections.

This may sound far-fetched, and perhaps it is. But try telling that to the scientists working on adapting to climate change by creating a shield in space to divert the sun's rays, or to those who wish to fill the atmosphere with synthetic clouds to keep the planet cool. Anyone interested in facing up to income change may have to start thinking on this scale. ■



Also in this section

32 Bello: Ecuador on the edge

33 Slavery and the Shining Path

33 Morrissey in Mexico

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Argentina's elections

The scion and the heir

BUENOS AIRES

Voters are about to start choosing the next president

ACOUNTDOWN clock hangs over the desks in the open-plan political headquarters of Mauricio Macri, the mayor of Buenos Aires, who hopes to be Argentina's next president. It tells skinny-jeaned campaign workers how many days, hours and minutes there are "until change". The clock will hit zero on August 9th, when political parties hold primaries to select their presidential candidates. Then, presumably, it will be reset for the first round of the election itself, to be held on October 25th.

The primaries are less momentous than the clock suggests. There is little suspense about who will win. Mr Macri (pictured above left) is way ahead of rivals to be the candidate of Cambiemos ("Let's change"), an electoral front that consists of his Republican Proposal and two other parties. The other main contender for the presidency is likely to be Daniel Scioli (above right), the governor of Buenos Aires province. He is the only candidate from the Front for Victory (FPV), the party of Argentina's president, Cristina Fernández de Kirchner.

Even so, the primaries matter. If pollsters' guesses are correct, the presidential election is a two-horse race. Sergio Massa, a charismatic congressman from the Justicialist Party who was ahead in the polls a year ago, is far behind now. Ms Fernández, after months of prevarication, has thrown her support behind Mr Scioli, who was Ar-

gentina's vice-president when her late husband, Néstor Kirchner, was president. The primaries are thus likely to show that Argentines face a choice between the continuity that Mr Scioli represents and the change that Mr Macri promises.

Unlike the rowdy presidential primaries in the United States, Argentina's "simultaneous open obligatory primaries" (PASO) are not an exercise in intra-party democracy. Ms Fernández, who introduced the system in 2009, called it at the time "the most important political reform" since democracy was restored in 1983. There is little evidence for that. None of the

candidates faces a serious challenge from within his own electoral coalition. Argentina's interior and transport minister, Florencio Randazzo, an ally of Ms Fernández, might have posed a threat to Mr Scioli. Mr Scioli extinguished it by choosing the president's closest (non-family) confidant, Carlos Zannini, to be his running mate. Ms Fernández duly persuaded Mr Randazzo to withdraw his candidacy.

The real point of PASO voting, many analysts think, is to spare politicians nasty surprises in a country where opinion polls are unreliable. Ms Fernández introduced it after her party was routed in mid-term elections. Voters have to take part. They choose which party's primary to vote in, and that indicates which candidate they are likely to support in the later election. In primaries held before the last presidential ballot, in 2011, the FPV's contest (between Ms Fernández and a host of others) attracted more voters than that of any other party. She went on to win by a landslide. "In the absence of credible surveys, the PASO elections are a true thermometer for what each candidate's chances are going into October," says Juan Cruz Diaz of Cefedas, a research group.

That has not stopped pollsters from making their own predictions. The only point of agreement is that this year's presidential contest will be closer than the last one. Aresco, an Argentine polling group, expects Mr Scioli to win in the first round; IPSOS predicts that Mr Macri will prevail in a run-off on November 22nd.

The election is shaping up as a referendum on *kirchnerismo*, the brand of Peronist populism practised by Kirchner, who became president in 2003, and by his wife, who succeeded him. Mr Macri, a scion of a business family, built his centre-right party ►



from scratch by opposing everything the Kirchners stand for. He promises to restore independence to institutions that Ms Fernández has co-opted, including the judiciary and the statistics agency, to remove trade barriers and currency controls that she imposed in 2011 and to quell inflation. He would probably try to reach agreement with holders of foreign debt, on which Argentina has defaulted.

Mr Scioli is building his campaign around voters among whom Ms Fernández still exerts Evita-like charm. Her image is all over his campaign adverts and billboards. Although inflation is high and the

economy is shrinking, a large proportion of Argentina's 40m citizens benefits from Ms Fernández's lavish spending on subsidies, benefits and government jobs (see chart on previous page). By choosing Mr Zannini to be his running mate, Mr Scioli has greatly improved his chances of holding on to their support.

Yet the divide between Mr Scioli and Mr Macri is not as stark as it first appears. Even before the primaries, Mr Macri has started moving toward the political centre. He says he has no plans to privatise the money-losing state airline or YPF, a big oil company that Ms Fernández nationalised

in 2012. Welfare schemes are an "earned right", Mr Macri declares. His chief of staff says he will not cut subsidies deeply or lay off government workers en masse. The change candidate has mainly changed his own mind, sneer his opponents.

Mr Scioli avoids that risk by saying as little as possible. His friends say he cosies up to Ms Fernández only out of political necessity; in office he will be his own man. After August 9th Argentines will be able to make a better guess about who will take office as president in December. Just what sort of leader he will turn out to be will become clear when he starts governing. ■

Bello | Scraping the barrel

Will Ecuador turn into Latin America's Greece?

VISITORS arriving at Quito's new airport are swept to Ecuador's capital, 35km (22 miles) away, along a brand new six-lane motorway. Together with new hospitals, schools, social housing and benefits and student grants, the vastly improved road network is the work of President Rafael Correa's "Citizens' Revolution". With his melange of technocratic modernisation and leftist populism, Mr Correa leads a strong and hitherto popular government that has lasted eight years in a country where none of his three predecessors completed their terms.

But now Mr Correa is running out of money and the citizens are starting to turn against him. In June, in the biggest of many protests, some 350,000 people took to the streets of the port city of Guayaquil to demonstrate against plans to impose punitive additional taxes on inheritances and gains from property transactions.

The protests came as the plunge in the oil price and the strength of the dollar—which Ecuador has used as its currency since 2000—have combined to halt economic growth. The economy contracted in the first quarter of this year compared with the previous one. Independent economists forecast either no growth or a mild contraction this year and next.

The government claims to be diversifying the economy away from the export of oil and bananas. "It takes time," concedes Nathalie Cely, the minister of production. She points to investments in food processing and tourism, and soon-to-be-opened Chinese-built hydroelectric plants (which will cut fuel imports). But the driver of growth has been public, rather than private, investment. "If you stuff businesses with taxes...that produces a lack of confidence, an economic slowdown and companies don't invest," says Jaime Nebot, the mayor of Guayaquil,



who organised the June protest.

Mr Correa used oil revenue and Chinese loans to erect a big state, which spent 44% of GDP in 2013 according to the IMF. The headache now is how to finance this. Despite two rounds of budget cuts there is still a shortfall of around \$7.2 billion (or 7% of GDP) this year, according to Observatorio Fiscal, a watchdog.

While the stock of public debt is still low (at 30% of GDP) it is rising fast. Ecuador lacks not just its own currency but also a lender of last resort. External sources of finance are drying up. The government has issued \$1.5 billion in foreign bonds this year, but at a steep interest rate of 10.5%. The administration has introduced regulations that would allow it to issue electronic money and Central Bank paper. That way lies Greece, warns Abelardo Pachano, a former banker. Printing a quasi-currency risks a run on the banks by savers who fear deposits would not be returned in dollars; the Central Bank has hard-currency reserves of only \$4.6 billion. Mr Correa, seeming to recognise the danger, has been cautious in implementing these measures.

So Ecuador is facing a big and politically

testing fiscal squeeze. Mr Correa is still relatively popular, and the opposition is divided. But he has lost the middle class and the cities. He is trying to change the constitution to allow his indefinite re-election, without a referendum. That will provoke further protests.

There is a dark, Putinesque side to the regime. It has split the leftist social movements that were its original allies. It has bullied the media into self-censorship. Many public contracts have been awarded without tender. Opponents claim that corruption is rampant. Those who make specific denunciations are persecuted by a new intelligence service and in pliant courts. At least two witnesses to corruption have died mysteriously.

Clever Jiménez, a congressman for a left-wing party, was sentenced to 18 months in jail for accusing Mr Correa of responsibility for five deaths during a police mutiny in 2010. Martha Roldós, a centre-left politician who fell out with the president, was stripped of her political rights and says her daughter was twice threatened by gunmen. Guillermo Lasso, a conservative former banker whom Mr Correa defeated in the 2013 presidential election, says his phone is being tapped.

The president's opponents doubt he will cede power voluntarily. "We appear to be living in a democracy, but all the institutions of state are subject to one person," says Mr Jiménez. Mr Correa "can only conceive of being president, not an ex-president", according to Mr Lasso.

Mr Correa faces a choice. He could persist in his bid for permanent power and risk being kicked out by the street, like his predecessors. Or he could swallow his pride, stabilise the economy and drop his re-election bid. He would then go down in history as one of Ecuador's most successful presidents.



Peru

Slaves of the past

LIMA

The Shining Path has not quite been extinguished

FOR Peruvians it was a reminder of a long-ago nightmare. On July 27th soldiers and police rescued 26 children, ten women and three men whom they said had been held as slaves for up to 30 years by Sendero Luminoso ("Shining Path"), a Maoist terrorist group. The captives, some of whom are from the Ashaninka Amerindian tribe, were growing food for the guerrillas. Officials said the women had been raped. All had received political indoctrination; some were reluctant to be rescued.

Sendero, as Peruvians call it, was the strangest and most vicious of Latin America's once-numerous insurgent groups. Its creator, Abimael Guzmán, a philosophy professor who espoused the Maoism of the Chinese Cultural Revolution, launched a "People's War" against the Peruvian state in 1980, as the country returned to democracy after 12 years of military dictatorship.

Sendero imposed a reign of terror in Andean peasant communities, and bombed and murdered in cities. The army response was a "dirty war" in which civilians were victims. Patient police work led to the capture of Mr Guzmán in 1992. He is serving a life sentence. A truth commission blamed Sendero for most of the 69,000 deaths in the conflict between 1980 and 2000.

On his capture, most of Mr Guzmán's followers heeded his call to end their struggle. But two factions continued in drug-trafficking areas where the Andes meet the Amazon rainforest. One was defeated in 2012. The other, perhaps 300 fighters led by two brothers, Victor and Jorge Quispe Palomino, is entrenched in the valleys of the Apurímac, Ene and Mantaro rivers, an area known as the VRAEM (see map). That is where the "slave farm" was found.

Mountainous and with few roads, the

Morrissey in Mexico

Girlfriend in a conga

MEXICO CITY

What do Mexicans and a Mancunian misanthrope have in common?

THE lugubrious strains of "Heaven Knows I'm Miserable Now" waft across a sunny beach in Acapulco. If that song in that setting surprises you, then you do not know about the strange affinity between Mexicans and Morrissey, the morbid, underdog-loving front-man of The Smiths, a British band of the 1980s, who then went solo.

In Mexico City a band called Mexrissey is hard at work recording an album of his songs in styles ranging from trumpet-blaring mariachi to throbbing norteño. Its creator, disc jockey Camilo Lara, calls it "Girlfriend in a Conga", a play on one of The Smiths' wickedest songs (which puts the girlfriend in a coma). It's not a tribute album. Morrissey's lyrics, dripping with black humour, are translated into the mischievous Spanish of Mexico City. Morrissey's "First of the Gang to Die", about a murdered gangster, fades out in its Mexican version with *ay güey, pobre güey* ("hey dude, poor dude").

Mr Lara says the bitter melodrama of Morrissey's poetry strikes a chord in Mexico, where even in soap operas the poor make it up the social ladder only through lies and deceit. In Mexican street music, the exuberant melodies overlie bleakly funny lyrics about loneliness, depression and self-pity. The jubilant trumpets, like Johnny Marr's guitar in The Smiths' heyday, can strike hammer blows to the heart. Among Chicanos in the United States, Morrissey fandom is even more intense.

He returns the affection with almost ludicrous tenderness. Famously, he once described Mexicans as "so terribly nice. They have such fantastic hair and fantastic skin and usually really good teeth. Great combination!" As the son of Catholic Irish immigrants to Britain, he appears to empathise with uprooted émigrés to the United States. In "Mexico", Morrissey sings of breathing "the tranquil cool lover's air/ but I could taste a trace/ of American chemical waste/ and the small voice said: 'What can we do?'" Chicano

concert-goers sport "Moz" tattoos.

In his autobiography Morrissey describes the Mexican gait with the bemusing eccentricity that is one of his trademarks: "There is a certain Mexican movement of the head, telling us from elsewhere that they know very well how they are thought not to matter. Because of this they have abnormal strength and love, with anchored hearts beyond the imaginations of royal dictatorships." That makes Mexicans swoon. "There is this violent country. And then there is this Brit from Manchester who sees us with eyes of love," Mr Lara says.

Morrissey has not endorsed his album. Nor did he comment on Mexrissey's sold-out concerts this year in London's Barbican theatre and elsewhere, where fans sang along in English over the Latin rhythms.

Lovers of Mexican music hope the album will build an international audience for it, as the Buena Vista Social Club did for Cuban pop. Mexrissey might be happy with viral Gangnam-style success. Either way, the bond between Mexico and the melancholy Mancunian can only get stronger.

MEX AND THE CITY HOSTS



MEX MOZ NIGHT
ERIKA'S BDAY EDITION

be "pacified". That will require a co-ordinated effort to bring in state services.

Peru has changed radically since Mr Guzmán was captured. Income per person has quadrupled. Mr Humala boasted of his government's achievements in bringing health care, education and paved roads to the Andes. Sendero is no more than an irritant. But a few Peruvians are still living the nightmare of the 1980s. ■

VRAEM produces almost half of Peru's cocaine. Some analysts argue that the guerrillas are now indistinguishable from drug traffickers. But the apparent slave farm is evidence that they retain political aims. Police say they know of at least two similar farms. Ollanta Humala, Peru's president, said on July 28th that "drug trafficking is no longer a parallel power in the VRAEM" and that "sooner rather than later" the area will

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Statewide scams in India

Dial M for Madhya

INDORE

A mass-murder mystery in the heart of the country now threatens to poison national politics

THE fallout only grows from a labyrinthine conspiracy to rig the results of a technical examinations board in the central Indian state of Madhya Pradesh. The scam involves local politicians, bureaucrats, policemen, businessmen and criminal gangs. Investigators believe they have received no less than \$3 billion in kickbacks over five years from students and their families keen to secure a limited number of places in government and in state medical and other colleges. One person who has seen the police files says a single postgraduate seat could be bought for over \$250,000.

An investigation that began with the arrest in 2013 of 20 people accused of impersonating candidates has now implicated over 2,000. And once the bodies of potential witnesses started piling up, the rest of the country started to take notice. About 50 people thought to be connected to the Vyapam scam, named after the acronym for the exams board, have turned up dead.

A young man said by police to have hanged himself was found by his family lying dead on the floor, with nails driven into his skull. An autopsy showed that a girl who was supposed to have fallen from a train was strangled. A 38-year-old television reporter who came down from Delhi, the capital, to interview the girl's family himself fell dead outside their home, a few minutes after taking tea with them. Now the Central Bureau of Investigation (CBI) is reviewing a lengthening list of suspicious

deaths. What the dead have in common is that they all learned something of the inner workings of the scam which, in its very simplest form, involved a sitter paying someone to pass him answers to a test.

In the town of Indore, Anand Rai, a government medical officer, cuts briskly through a hotel lobby for an interview. As a whistle-blower seeking to get to the bottom of the Vyapam scandal, Dr Rai's life may be under threat. He has an armed constable scuttling behind him, but Dr Rai dismisses him with a gesture. He says he is not reassured by having a state bodyguard. "If anyone is trying to kill me, it's them," Dr Rai says, referring to state actors.

As he sees it, the harassment comes from the top of Madhya Pradesh. On July 17th Dr Rai had complained to the CBI that a senior figure in the Bharatiya Janata Party (BJP), which has run the state for a decade, pulled strings to put his own daughter into Indore's best medical college. Two days later Dr Rai was suddenly transferred to a smaller town. His wife, also a government doctor, was moved to a third place. Together, they have a young child to bring up.

Under the shadow of Vyapam, it is not just the state assembly in Bhopal that has fallen into disarray but also the national parliament in Delhi. Its annual "monsoon" session was meant to start last week. Yet the opposition Congress party is frustrating its opening. It is clamouring for the state's chief minister, Shivraj Singh Chouhan, to be dismissed (along with another

Also in this section

- 36 Mullah Omar's death confirmed
- 36 Politics in the Philippines
- 37 Juvenile crime scares in Japan
- 38 Banyan: Boats against the current

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chief minister and India's foreign minister, each caught up in another scam).

If the opposition ensures that the monsoon session is a washout, then the national government of the BJP will have missed a vital chance to pursue reforms to land acquisition and labour practices, as well as to introduce a much-needed goods-and-services tax. That would weaken the standing of the prime minister, Narendra Modi.

Mr Modi will not lightly dismiss ministers. He keeps a constant eye turned to state elections, which take place in India on a rolling basis. Bihar will be the next to vote, probably in October, and the BJP's opponents there are putting up a strong front. Mr Modi has to stand by his comrades rather than admit wrongdoing or mistakes. Instead of cleaning house, the BJP is launching a counter-offensive against Congress-led states, looking for scandals in Uttarakhand and elsewhere.

However many of Vyapam's victims have been murdered, far more have not. At the Mahatma Gandhi Memorial medical college in Indore, Dr Rai's alma mater, swotting freshmen are grateful to Dr Rai for exposing the scandal. One of them, Kartik Batham, is 21 years old. He never paid a bribe and failed the admissions test two years in a row, until the scandal broke and the Vyapam board came under scrutiny. He is sure he would have kept on failing had it not been for the bravery of Dr Rai and other whistle-blowers. One of his classmates, in whom the murders have instilled fear, resents the shadow the racket has cast on his vocation. When young doctors feel ashamed to disclose their profession in public, for fear people might think their position was bought, then there is, he says, "something devilish going on". He thinks a national exams board might solve the problem of state-run rackets. But this week's mudslinging in Delhi makes that devilishly hard to imagine. ■

Mullah Omar's death confirmed

The one-eyed man who was king

ISLAMABAD

The Taliban lose a leader and their unity

AS RECENTLY as July 15th Mullah Muhammad Omar, the one-eyed leader of the Taliban, reassured his followers that no religious prohibition barred negotiations with the hated American-backed government in Kabul, the Afghan capital. After all, he wrote in one of the missives he traditionally issued on Islamic holidays, the Prophet himself had conducted "face-to-face talks with warring infidel parties".

It was a message from beyond the grave. On July 29th the Afghan government confirmed claims by Pakistani intelligence officials that the mysterious leader had in fact died in Pakistan in April 2013. For two years the insurgency chose to keep this quiet. It put out twice-yearly messages in the name of the former village mullah who claimed to speak with the authority of "Amir ul Momineen", or commander of the faithful. In 2014 even Ayman al-Zawahiri, Osama bin Laden's successor as leader of al-Qaeda, pledged allegiance (perhaps unwittingly) to a dead man.

Mullah Omar cemented his status as spiritual leader in 1996 by waving a holy relic—the cloak of the Prophet—from the roof of a mosque in Kandahar, the Taliban's former stronghold in Afghanistan's south. It was essential to his control over the revolutionary posse of hard-line seminarians that emerged from civil war to conquer almost the entire country. After its government in Kabul crumbled under American air power in 2001, he played a minimal role in running the insurgency the Taliban became. But his religious authority maintained the movement's cohesion in a country riven by rival warlords.

Today the Taliban's need for a unifying figurehead has never been greater. Despite the battlefield successes of the current summer fighting season, it is no closer to regaining power. And the rise of Islamic State (is) has turned many Taliban heads. In July one of the best-known jihadist leaders of the 1980s, Gulbuddin Hikmatyar, announced he had ditched the Taliban in favour of the is caliphate. Mullah Omar's stature helped stem the tide of similar defections. In consequence, says a senior Afghan official plugged in to jihadi chatter, there had been a sharp increase in demands for proof he was still alive.

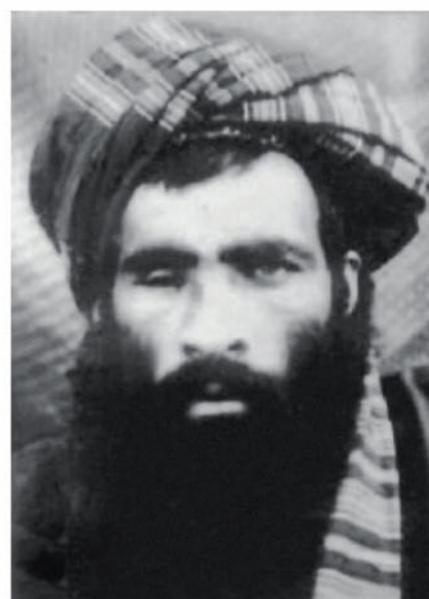
The Taliban are split over whether the time has come for peace talks. Pragmatic senior exiles fed up with living under the thumb of Pakistan's spy agency have long argued for an end to the war. But they are

resisted by hardliners, particularly among field commanders and fighters steeped for years in propaganda promising all-out victory. Divisions between the two factions seem to be widening.

The strains on the Taliban's unity have been intensified by regional pressures. China, worried about domestic extremism, has demanded that the Islamist fires in Afghanistan and Pakistan be extinguished. Ashraf Ghani, the Afghan president, has jettisoned the animosity towards Pakistan that characterised foreign policy under his predecessor, Hamid Karzai. This has led Islamabad to put unprecedented pressure on the Taliban to engage in direct talks with the Afghan government, which took place on July 7th in the Pakistani hill station of Murree. Reflecting the outrage of some within the movement, the talks prompted the publication on the Taliban website of a scathing critique, later deleted, that dismissed the negotiators as mid-level figures representing no one.

The next round of talks was due to take place on July 31st. If talks go ahead the news of Mullah Omar's demise will seriously undermine the Taliban team. Afghan diplomats concede it is a serious blow. That might even have been the purpose of confirming the death. Spoilers abound on all sides, including in the Afghan and Pakistani establishments.

Hopes of avoiding a violent splintering of the movement into competing groups rest on finding a credible unifying successor. One candidate is Mullah Omar's eldest son, Mullah Mohammad Yaqoob. An Afghan official closely involved in the peace effort says the government would prefer to negotiate with a cohesive movement. If any more than two or three factions emerge, he warns, any chance of reaching a deal would vanish. ■



No longer exaggerated

Politics in the Philippines

Life after Noynoy

MANILA

The president looks back; the rest of the country thinks about his successor

IT WAS a litany of gratitude to put an Oscar-winner to shame. In his last state-of-the-nation address to the Philippine Congress on July 27th, President Benigno "Noynoy" Aquino thanked God, his late parents and political allies, along with his social secretary, hairdresser and clothes stylist. "We are", he added, "only in the first chapter of the great story of the Filipino people."

Yet the curtain is coming down on Mr Aquino's presidency. He has less than a year left in office, thanks to a single six-year term limit for the presidency. As he looked back in his address on his achievements, others are looking ahead to who will replace him.

Mr Aquino ran for office on the slogan "If there's no corruption, there's no poverty". In office he has portrayed himself as an advocate of clean and transparent government. He has done some commendable things, including creating a commission to oversee spending by government-owned companies, publishing more budgetary information online and cleaning up government departments. Yet a recent opinion poll suggested that 46% of Filipinos believe Mr Aquino has failed to curb corruption, while just 13% say he has succeeded.

Poverty, meanwhile, has remained stubbornly high, despite fizzing economic growth. Official figures say that 25.8% of Filipinos were living below the poverty line in the first half of 2014, just 0.5 percentage points less than in 2009, the year before Mr Aquino took office. In the meantime foreign direct investment has tripled, while GDP growth has averaged over 6% a year.

Mr Aquino has made some commendable investments. He has more than doubled the share of GDP spent on infrastructure. He has also extended free schooling by two years, up to the age of 18. But the full benefits from these policies will take years to be felt. Meanwhile, the Philippines' fast growth is slowing, as in much of South-East Asia.

Mr Aquino's legacy will depend on how durable his reforms prove; the next president may try to undo his work. As it is, his chief domestic accomplishment—forging peace with Muslim rebels in Mindanao in March 2014—has hit difficulties over disarming the rebels. As for politics, patronage and popularity have always counted for more than policies or political parties. If Mr Aquino wants to be sure to safeguard his legacy, he must back the presidential ►

► winner.

Yet it is far from clear who that will be. Jejomar Binay, Mr Aquino's vice-president, has declared his candidacy. He will have strong backing from the country's powerful mayors, but has been dogged by corruption allegations. In a poll of possible candidates released in July, Grace Poe, a senator and adopted daughter of a late film-star-turned-politician, proved most popular. She acquitted herself well in hearings into a bungled anti-terror raid in the province of Maguindanao in January, in which 44 members of the special forces were killed.

The president himself is thought to be ready to endorse Mar Roxas, the interior secretary. That may be in gratitude to Mr Roxas for not challenging Mr Aquino in 2010. But the minister is gaffe-prone and lacks popular appeal. Mr Aquino reportedly wants Ms Poe to be Mr Roxas's vice-president, but she presumably has higher ambitions.

Whatever Mr Aquino's endorsement, it will not be full-throated. He has been a careful president, and may prove a careful lame duck. It pays always to be friendly with the person in the presidential palace: the two presidents before Mr Aquino were both jailed by their successors. ■

Crime in Japan

Victims' justice

TOKYO

A misplaced panic about juvenile crime

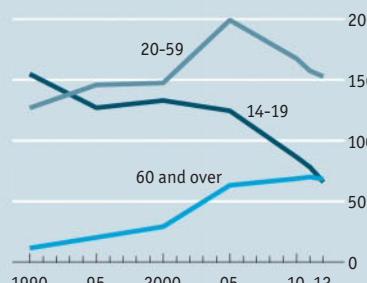
PRISONS in Japan are filling up with an unexpected group: the elderly. For the first time, more crimes are being committed by people over 65 than by those aged between 14 and 19 (see chart). The young still have a slightly higher propensity to commit crime. But in absolute terms, because of Japan's ageing population, the elderly are now responsible for more incidents of shoplifting, brawling and the like. One motivation is straitened circumstances. Some lonely elderly may even look to prisons for companionship and care, including in special geriatric wards.

Meanwhile, the number of crimes committed by the young has been falling since 2003—despite the police doing their utmost to arrest youngsters for tiny misdemeanours such as—horrors—going into rice paddies without permission. And bear in mind that Japan's crime rate, including among the young, is about a tenth of the average for developed countries.

Even so, a few grisly murders by minors have convinced many Japanese, whipped up by the media, that the country is suffering an unprecedented epidemic of youth

Old-age or age-old problem?

Arrests in Japan, by age, '000



Source: Statistics Japan

violence and delinquency. One recent case was that of three boys, aged 17-18, who were indicted in February in connection with the fatal stabbing of a 13-year-old in Kawasaki, near Tokyo. Two more instances of violence by schoolchildren in April and June, resulting in the deaths of young victims, have spread more unease.

Hovering over the recent cases is the revived story of a serial killer from Kobe who, as a 14-year-old in 1997, killed two younger children, decapitating one of them. In June the killer published a detailed memoir. It has become a bestseller, outraging and mesmerising Japanese readers in equal measure.

At present Japan's approach to juvenile wrongdoers places the emphasis on reform of the individual, not punishment. In theory, under the Juvenile Act of 1948, judges may hand down criminal sentences to those younger than 20. In practice, rehabilitation is the watchword, taking place in more lenient correctional institutions rather than in prisons.

Most juvenile offenders in Japan are sent to one of 52 training schools. There they develop close relationships with teachers who prepare them quickly to rejoin society. Academic studies and vocational training continue inside. Until not long ago, even youngsters guilty of murder might be detained for no more than two years in the schools before being released,

apparently rehabilitated.

A vocal victims' rights movement has begun to chip away at the act's provisions. In 2001 the threshold age at which convicted miscreants may get a penal sentence was lowered from 16 to 14. Such sentences for juveniles are now more common. Japan has even executed a murderer who was a minor at the time of his offence.

Conservative politicians in the ruling Liberal Democratic Party (LDP) now want to make the regime for young offenders tougher still. Given the recent rash of murders, the timing is right for that, says Kunio Hatoyama, a former justice minister notable for the increased number of adult executions he authorised while in office. The sentencing on July 13th of an autistic girl who, at 15, strangled a classmate in Kyushu last year has added to populist calls for a more punitive regime; she will go to a juvenile training school with medical facilities, not prison.

The LDP's chief aim is to lower the age at which the Juvenile Act applies, from 20 to 18—in line with a recent lowering of the voting age. But that, says Minoru Yokoyama, an expert on Japan's penal system, could mean that two-fifths of young inmates now being rehabilitated in juvenile training schools would be lost to the prison system. A greater stigma would then attach to young offenders. Meanwhile the much-praised quality of the training schools would suffer, as many of the volunteers who now work with children would leave. Currently, a lower proportion of minors than adults reoffends in Japan.

For all the brouhaha about juvenile crime, one factor underlying it is neglected: a pervasive culture of school bullying in a group-oriented education system. The number of bullying cases continues to rise, and is in any case understated by teachers. (Bullying also contributes to a high rate of suicide among the young.) Ryota Uemura, the 13-year-old who was stabbed, had stopped going to school and was known by the police to have suffered assaults at the hands of his eventual killer. There was a clear failure to protect him. ■



Banyan | Boats against the current

Mistrust still thwarts efforts to make peace between India and Pakistan



IN THE regional politics of South Asia, thaws are often the briefest of interludes between frost and steam. But even by local standards, the most recent rapprochement between India and Pakistan has proved remarkably short-lived. On July 11th, on the margins of a regional summit in Ufa in Russia, India's prime minister, Narendra Modi, and Nawaz Sharif, his Pakistani counterpart, signed a joint statement that seemed a breakthrough of sorts. Each country would free the other's fishermen from its jails. Their national security advisers were to meet. And Mr Modi was to travel to Pakistan next year to attend a South Asian summit—which would also be the first time an Indian leader had visited since 2004. Yet by the time the two men had returned home, the mood had already soured. And with this week's attack by terrorists on an Indian police station in Gurdaspur in the state of Punjab near the Pakistani border—in whose planning and execution Indian officials at once claimed to find the spoor of Pakistan's military intelligence agency—it was back to the bad old days.

Eleven people died in the attack and siege that ended it, including all three gunmen. Pakistan has denied involvement and condemned the violence. But the circumstances have led many Indians to assume its guilt. The style of terrorism was one favoured by Pakistani-backed jihadist groups such as Lashkar-e-Taiba in Indian-administered Kashmir. India also accuses Pakistan of trying to stir up unrest in Indian Punjab, which in the 1970s and 1980s endured a bloody Sikh insurgency. And the timing of this latest attack was telling: whenever relations between Pakistan and India seem on the mend, an act of Pakistani-sponsored terrorism opens the wounds again. They have still not healed from the onslaught on Mumbai in 2008 in which 164 people were killed. Pakistan has failed to bring the alleged mastermind to trial.

The lessons of this are sobering for both prime ministers. Mr Sharif has received yet another reminder that the army, not he himself, sets his government's policy on issues of national security. Mr Modi, in turn, is reminded of the obstacles in the way of two cherished policies. The first is to improve relations with neighbours so that India can develop its economy in a peaceful, co-operative region. The other, for a famous scourge of alleged terrorists when he was chief minister of the state of Gujarat, is to stand up for India's interests and respond forcefully to provocations.

Mammoohan Singh, Mr Modi's gentlemanly predecessor as prime minister, used to be lambasted by Mr Modi's cheerleaders in the Bharatiya Janata Party (BJP) for what it portrayed as his humiliating pushover of a foreign policy. Now Mr Modi faces the same difficulties Mr Singh did in making peace, and the same dilemmas in formulating a robust response.

Even before the attack in Punjab, the breakthrough at Ufa had seemed an aberration. India reported firing by the Pakistani army across the "line of control" which divides Kashmir in the absence of a settled border. Pakistan also said it had shot down what it claimed was an Indian unmanned spy-plane. And it even claimed to have evidence of Indian involvement in one of the most horrific of the many terrorist attacks Pakistan has suffered, by the Pakistani Taliban last December on a school in Peshawar, that killed 145 people, 132 of them children.

So it is odd that the two prime ministers tried at all. Last year Mr Modi made a bold gesture by inviting Mr Sharif to his inauguration. But a row over Pakistan's meddling in Indian Kashmir soon scuppered that initiative. Since then, Mr Modi has strutted India's stuff on the world stage, apparently accepting that progress with Pakistan was unlikely and attempting to present the incessant wrangling as just a minor local difficulty.

For his part, Mr Sharif, who has twice in the past served as prime minister with bitter personal experience of the limits of civilian power, must have known that the joint statement at Ufa would have his generals fuming. It read like the draft India would have tabled as its ambitious first gambit in a prolonged negotiation, mentioning India's prime concerns such as the Mumbai case and terrorism, but ignoring Pakistan's: Kashmir, over which the two countries have three times gone to war.

Perhaps, some Indians speculate, both men knew their gestures were empty, and were playing to an international gallery. In India's case that would have been to America, to prove that the tension with its neighbour was not of its making; and in Pakistan's case to China, which wants India and Pakistan to co-operate to advance peace in Afghanistan and which, having just promised \$46 billion in investment in Pakistan, has clout there.

International opinion, combined with a lack of hard evidence about the perpetrators, may also help explain why, even under the fire-breathing Hindu-nationalist Mr Modi, India's reaction to this week's atrocity has been relatively restrained. It has not yet even cancelled the proposed national-security-adviser talks.

The non-nuclear option

Another reason is the difficulty in finding what India's home minister, Rajnath Singh, threatened this week: "a befitting reply". Economic pressure is constrained by the two neighbours' lack of extensive trade and investment links. Diplomatic persuasion seems doomed by the Pakistani army's self-interest in maintaining tension. Covertly sponsoring tit-for-tat terrorism in Pakistan would be futile as well as wrong. And any form of overt military response raises the risk of uncontrollable escalation. A recent paper by Walter Ladwig of King's College in London argues that Pakistan's army is strong enough in conventional terms to deter Indian policymakers from thinking that "they can either achieve strategic surprise against Pakistan or carry out highly effective air strikes with little escalatory risk." That Pakistan, like India, is a nuclear power adds further nightmarish dimensions to any military calculation. Mr Modi has promised a new approach to the old enemy but may find that his options are limited. ■



Wind power

Need a weatherman

DABANCHENG, XINJIANG

Though wind generation is growing fast, much remains wrong with the industry

ROW after giant row of wind turbines marches towards the snowy peaks of the Tian Shan range, harvesting energy from the air. On a blustery July day in Xinjiang in China's far west, it is hard to stand upright beside the structures, each 90m (nearly 300 feet) high. China is better known as a land of coal and smog, but it is now increasing the generation of electricity from renewable sources faster than any other country, with more than 100 gigawatts a year of installed generating capacity from wind, a third of the world's total (see chart). In future, wind power will be a vital source of renewable energy. If it can integrate large-scale wind generation into its electricity network, China will be an example for other countries.

By many counts wind generation in China is a success story. Over the past decade generating capacity has increased tenfold, while the cost of building wind farms has fallen. Three of the world's top ten turbine manufacturers are Chinese. The industry has not suffered from the boom-and-bust nature of China's solar industry, the world's biggest, which sharply increased production of panels even as global prices plummeted, with plenty of dodgy financing and dirty manufacturing processes along the way.

Wind power has tripled its share of Chi-

na's electricity generation since 2010, to 3% of the total. If that still seems puny, it is enough to power 110m Chinese homes. And fast growth is likely to continue for a long while. The prime minister, Li Keqiang, says that by 2030 China must cut its emissions of carbon dioxide per unit of GDP to 60-65% of the levels prevailing in 2005. Wind projects will be crucial to meeting the target; coal now generates nearly two-thirds of China's electricity.

Wind power is clean and safe. It uses far less water than fossil-fuel generation. It is much cheaper to build and run than hydroelectric or nuclear power. And while lo-

Also in this section

40 Condoms on the rise

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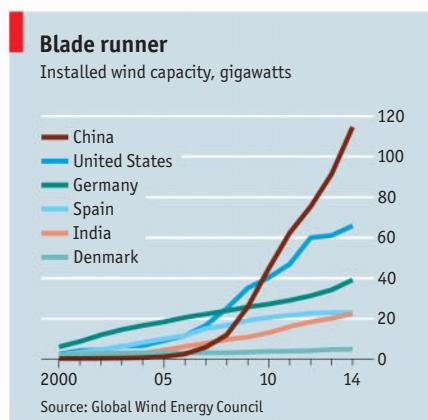
cal communities in other countries often oppose wind turbines littering their pleasant lands, the Chinese government rarely gives a fig about local feeling (or conserving local ecosystems). Besides, most of China's wind blows in places where few Chinese live.

That has also been a problem, however. The windiest parts of China are Gansu and Xinjiang provinces in the north-west and west, and Inner Mongolia in the north, far from the huge population and industrial centres down the eastern seaboard. Expanding China's electricity grid has lagged far behind the construction of wind farms. Huge arrays were built only to have to wait for ages to be plugged in to the grid. Even once they were connected, much electricity leaked out of transmission lines. And the grid proved unable to cope with surges in electricity whenever the wind blew.

China has resolved many of these problems. For instance, new wind farms now get connected faster. Yet, despite improvements, the grid still struggles to cope with fluctuating loads. In the first three months of the year 19% of electricity was wasted, according to the National Energy Administration, up from 12% in the same period last year. The operators of a wind farm at Dabancheng in Xinjiang say it runs at full capacity only about half of the time.

The quality of Chinese-made turbines has improved greatly since the early models. But even today maintenance of the newer machines falls short. Chronically poor servicing in China means many farms operate below capacity. That is another area for improvement.

Yet much deeper change is needed if China is greatly to increase its share of wind energy, says Kaare Sandholt of the ►



► China National Renewable Energy Centre, a think-tank in Beijing. Without it, he reckons, investment in wind may not make economic sense.

The biggest challenge is ensuring a stable supply of electricity in both zephyrs and howling gales. At the moment China uses wind power to supplement a high baseload of dirty but dependable coal. The test will be how large a share of its supply it can generate from a fluctuating source. China's vast size ought to work to its advantage. If one part of the country is windless, another may be enjoying a stiff breeze generating electricity that feeds the same grid. If China can create a highly connected national grid, it will become a model for green energy use elsewhere.

Yet infrastructure plans focus too much on short-term fixes. In order to carry electricity from distant windmills to the energy-hungry east, China is constructing 27 ultra-high-voltage transmission lines by the end of 2020. Nine have already been completed, including an 800-kilovolt line from Xinjiang to Zhengzhou, more than 2,000 kilometres (about 1,240 miles) away in east-central China. Such giant lines perpetuate the dependence on a large, reliable baseload—usually a fossil fuel—because they channel huge amounts of electricity to a limited number of places rather than into a flexible, more integrated grid that connects many points. Such an interconnected grid would allow supply to flow from different sources to anywhere electricity is needed, creating a steadier base. It would deal better with bottlenecks in supply—when there is lots of wind, for instance. Denmark has shown the potential, by connecting to the grids of neighbouring countries. As a consequence, it is able to meet two-fifths of its electricity consumption from wind power.

Too few incentives exist in China to increase flexibility in energy supply. Both power generators and the grid are owned by the heavy-handed state. Creating a market in energy would help. More than a decade ago the government separated the function of generation from distribution, but plans to free up pricing stalled. In March the State Council called for "urgent" reform to the power sector, advocating the increased use of pricing and competition. But it gave few details about how or when such measures might be introduced.

A market in electricity would be welcome. It would not increase the role of wind power or other renewables in itself. But it would reward flexibility by paying generators more when demand is high, meaning that coal-fired power would come online mainly when prices rose (today generators are paid regardless of demand). The trouble is that reforms would be fiendishly complicated to introduce, and would disturb entrenched interests and power bosses. Industry outlook: moderate to poor. ■

Contraception

Rising penetration rate

BEIJING

Social media help to spread the use of condoms

IT USED to be that condoms could be found in China only during business hours, at government family-planning clinics, on production of a marriage certificate. In recent years they have become far more readily available—in vivid and sometimes intimidating variety—alongside the chewing gum, cigarettes and crisps on offer at all-night convenience stores, in hotel rooms and in vending machines. Sales of *biyuntao*, literally, "pregnancy-avoidance sheaths", are growing fast.

The name *biyuntao*, however, suggests why use of them is low in China compared with many other countries. Contraception is widely seen as a woman's responsibility—indeed, abortion is one of the most common methods.

Open discussion of sex remains taboo in most quarters, making it difficult to raise awareness of how useful condoms are, not only to prevent pregnancy but also the spread of disease. Aditya Sehgal of Durex, a British brand, says about 10% of Chinese who potentially are sexually active are regular condom users. That is about the same proportion as in Hong Kong four decades ago. In the former British colony it is now about 50%. China's market has plenty of room to grow.

The authorities, fearful of the spread of HIV, have tried to make condoms more readily available in places where prosti-

tutes do business. But they have been slower to promote them more widely. Some university campuses are still skittish about installing vending machines. It was only last year that officials lifted a near-total ban on television adverts for condoms.

That does not deter foreign brands. Mr Sehgal says he has little interest in television advertising in China, where airtime is very expensive and it is hard to reach the target audience. Durex relies instead on social media to build its brand. Chinese equivalents of Twitter and Facebook are censored for political content, but give freer rein to discussion of sex. Humour is part of the mix: one advertising campaign involved posting photos of people using condoms to cover their shoes during a heavy rainstorm. All this has helped Durex raise its market share in China from 30% to 45% in the past four years.

It should help foreign brands that the domestic market is awash with shoddily made Chinese condoms. In April police in Shanghai broke up a gang that was producing and distributing condoms in eight provinces. After seizing 3m of them, police said they were tainted with heavy metals and were "very dangerous to humans". Still, stories like this do not guarantee a reservoir of goodwill for foreign brands—some of the counterfeits in Shanghai were falsely labelled as Durex. ■



For galoshes, size does matter

The
Economist

THE WORLD

AUGUST 1ST 2015



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POLITICS

3 Hillary is president

The first 100 days

5 Russia breaks up

The peril beyond Putin

6 NATO comes under attack

Article of faith

7 Lying makes your nose grow

A cartoon calamity

BUSINESS & ECONOMICS

8 The yuan rivals the dollar

Clash of the currencies

10 A "Piketty tax" is introduced

Squeezing the rich

11 The Panama Canal gets a rival

Trench warfare in Nicaragua

12 Rich nations aim for low growth

Good or bad? A debate

SCIENCE & TECHNOLOGY

15 Autonomous cars rule

From horseless to driverless

17 An asteroid heads for Earth

Taking the hit

18 India's monsoon fails

A billion-person question

HISTORY

20 China's Communists lost

What would be different now



POLITICS

If Hillary Clinton is president

The first 100 days

WASHINGTON, DC, APRIL 29TH 2017

She won the election by leaning right on national security and left on the economy. Now comes the fallout

AMERICA'S first woman president won last November by taking two large risks, transforming an election campaign that had seemed to be slipping away from her. One of those gambles, her hard-edged response to the Cuban-refugee crisis and post-Castro turmoil on that island, may yet pay off for her. The second, her populist "Contract with the Middle Class", has hit early turbulence, bogging down the rest of her domestic programme.

One hundred days into Hillary Clinton's presidency, pundits have been quick to note the irony. A politician long called overly cautious has spent her first months in office dealing with the fallout from acts of campaign-trail boldness. The 45th president this week tried to laugh off reports that her husband, Bill Clinton, told a private gathering of Silicon Valley bosses that "all this stuff is costing Hillary her honeymoon as president." The First Gentleman says that he was misquoted. Mrs Clinton began a White House lunch with women senators by joking: "This president came here to work, not have a honeymoon." But Mr Clinton is right. Most presidents arrive in office able to set the agenda, at least for a while. This president is being buffeted by events.

Start with Cuba, epicentre of the crisis that so destabilised the presidential campaign of Mrs Clinton's Republican rival, Marco Rubio. It has been months since TV screens were filled each night with scenes of American coastguard and naval ships pulling desperate *balseros* (rafters) ►

▶ from the sea. A recent Gallup poll showed that 74% of Americans now support Mrs Clinton's policy of suspending all applications for asylum by Cubans, at least while talks continue on organising free elections on the island. Since taking office Mrs Clinton has not wavered from the line that she adopted as a candidate last October, as the Castro era came to a chaotic and unexpectedly rapid end. As she said in a presidential debate with Mr Rubio: "There are 11m Cubans. They deserve a free and prosperous homeland, not empty promises that they can all move to America."

To this day Mr Rubio's admirers accuse Mrs Clinton of using a "racist" strategy to drive a wedge between Cuban-Americans and other Hispanic voters. They are especially angry with Vice-President Tim Kaine, a former governor and senator from Virginia who learned Spanish as a missionary in Central America, for his declaration on the campaign trail that "Cubans deserve our sympathy, but they are not our only neighbours"—a line that Republicans called blatant pandering to Mexican-Americans.

Now, with the election a distant memory, Republicans in Congress remain divided over the other half of Mrs Clinton's outreach to Latinos: her promise to send a comprehensive immigration bill to Congress during her first year in office.

Something's gotta give

With the Senate divided 50-50, giving Democrats a tiny edge when Mr Kaine casts a deciding vote as vice-president, and the House still firmly controlled by Republicans, Mrs Clinton will need bipartisan support (indeed a miracle, some would say) to get any bill passed. Optimists argue that Republicans simply cannot ignore America's growing diversity. Mrs Clinton not only held Mr Rubio—the first Latino presidential candidate—to 35% of the Hispanic vote, she narrowly defeated him in Florida, his home state. In his dignified concession speech Mr Rubio reminded his party that almost a million American teenagers of Hispanic origin reach voting age every year, giving Latinos and other immigrants a voice that "cannot be ignored".

Optimists also point to Mrs Clinton's pragmatic streak. She has wooed moderate Republicans by ditching her election promise to seek full citizenship for undocumented migrants now in the country. Legal status is already a huge advance for those living in the shadows, Mrs Clinton says.

Pessimists argue that Mrs Clinton's relations with Congress are souring faster than expected. She campaigned as a Washington insider who is "not too grand to go to Capitol Hill and cut deals", in a none-too-subtle rebuke of her predecessor, Barack

Obama. Her first weeks saw some successes, among them the easy Senate confirmation of the treasury secretary, Jason Furman, the defence secretary, Michèle Flournoy, and her national-security adviser, Jake Sullivan. She scored a further coup with the surprise appointment of a Republican as her secretary of state. Mrs Clinton nominated Senator Bob Corker of Tennessee, who as chairman of the Senate Foreign Relations Committee earned a reputation as a thoughtful dealmaker.

During confirmation hearings Mr Corker came under fire from some in his own party, notably Senator Ted Cruz of Texas, who quoted comments Mr Corker had made questioning Mr Obama's dealmaking with Iran. Mr Cruz suggested to Mr Corker that he is a "decoy duck", recruited to lead fellow-Republicans to ignore their qualms about the nuclear pact. Still, Mr Corker was eventually confirmed 68-28.

But it did not take long for Mrs Clinton



Pessimists argue that Mrs Clinton's relations with Congress are souring faster than expected

and Congress to find reasons for mutual suspicion. Audible mockery greeted the arrival in the Senate of a new, appointed member to represent Virginia, to fill the vacancy left by Mr Kaine's election as vice-president. The interim appointment was in the hands of Virginia's governor, Terry McAuliffe, who duly chose himself. Senator McAuliffe will need to seek direct election at the next general election in 2018 if he decides to remain in Congress. Until then even some Democratic senators have questioned their new colleague's past as a chief fundraiser for Bill Clinton. "Don't enough Americans think we are all bought and paid for?" asks a centrist Democrat.

Such ill-will will do little to help the Contract with the Middle Class. Mrs Clinton delighted Democrats by backing a rise in the federal minimum wage to \$15 an hour and calling for working mothers to enjoy two months' paid leave after giving birth or adopting a child. Amid Republican cries that she would lead America down a "European" path to bankruptcy, few voters examined the contract's fine print.

The scrutiny has started now. Walmart, America's largest private employer, said in March that it might have to automate many checkout lines in its stores if the federal minimum wage was raised to \$15, well above the \$10 that the store currently offers its lowest-paid staff. A report by the non-partisan Congressional Budget Office (CBO) gave warning that in the short term a higher federal minimum wage might cost as many as 2m jobs. The White House

pointed to the report's predictions of more benign long-term effects, as higher salaries led to more consumer spending. But the CBO report could be ready-made for makers of TV attack ads.

The president's plans for paid maternal leave are also in doubt. Asked to explain the origins of her pledge, a former campaign strategist for Mrs Clinton calls it "nuts" that America, unusually among rich countries, does not offer a nationwide right to maternity leave. "Also, we were losing the election," adds the strategist, noting that almost as soon as the plan was unveiled, Mrs Clinton's vote share grew sharply among married women voters.

It's complicated

The Contract with the Middle Class calls for the costs of maternity leave to be met by a new quasi-insurance fund, with contributions from employees (capped for the low-paid) and employers (with special breaks for small businesses) as well as tax credits from the federal government. Even some Democrats privately deride the scheme as absurdly complicated.

The rest of Mrs Clinton's domestic programme is pretty cautious, even dull. An early ambition is to reform the tax code, modestly, with new revenues going to early-childhood education. There is talk of an infrastructure bank to fund new roads, bridges and smarter electrical grids.

Even Washington's over-caffinated pundits are not about to write Mrs Clinton's political obituary, just months into her presidency. But in an age of gridlock there is a price to be paid for making bold promises on the campaign trail. The first 100 days of an American presidency are not what they once were. ■





If Russia breaks up The peril beyond Putin

MOSCOW

The world rightly worries about the prospect of a Greater Russia. But a Lesser Russia could be just as troubling

UNDER Vladimir Putin's presidency, Russia is seen in the outside world as an expansionist power trying to revise post-Soviet borders and rebuild an empire. But what if Russia itself—a country of nearly 200 nationalities that stretches across 11 time zones—is in danger of crumbling?

It would not be the first time that Russia tried aggression and expansion as a defence against modernisation and by doing so undermined its own territorial integrity. In 1904, when Russia was on the verge of a revolution, Nicholas II attempted to stave off change by looking for national traitors and starting a small war with Japan. The war ended a year later in Russia's defeat and 12 years later the tsarist Russian empire faded away in a few days. In 1979, as Communist rule struggled under the weight of its own contradictions, the Soviet Union invaded Afghanistan; 12 years later the Soviet Union collapsed just as suddenly.

In 2011 Moscow's urban middle class took to the streets to demand modernisation. Mr Putin responded by picking out alleged national traitors, annexing Crimea and starting a war against Ukraine. The idea that Russia's latest foreign-policy adventures might end in the same way as previous ones—with the collapse of the state and disintegration of the country—is not as far-fetched as it might seem.

The Soviet Union came apart because it overstretched itself and ran out of money and ideas. Local elites saw no benefit in remaining part of a bankrupt country. It fragmented along the administrative borders of the 15 republics that made up the giant country.

Yet there was no reason why the process had to stop there. Indeed, many of Russia's regions—including Siberia, Ural, Karelia and Tatarstan—declared their "sovereignty" at the time. To prevent further disintegration Russia's then president, Boris Yeltsin, came up with the idea of a federation, promising each region as much "sovereignty as it could swallow". Yeltsin made this promise in Kazan, the ancient capital of Tatarstan, which acquired many attributes of a separate state: a president, a constitution, a flag and, most important, its own budget. In exchange, Tatarstan promised to stay part of Russia.

Mr Putin has reversed federalism, and turned Russia into a centralised state. He cancelled regional elections, imposed a "presidential" representative over the heads of governors and redistributed tax revenues in Moscow's favour. But he did not build common institutions. The Russian state is seen not as an upholder of law but as a source of injustice and corruption.

In the words of Mikhail Iampolski, a

historian, Russia at present resembles a khanate in which local princes receive a licence to rule from the chief khan in the Kremlin. For the past decade the main job of the Moscow-appointed governors has been to provide votes for Mr Putin. In exchange they received a share of oil revenues and the right to rule as they see fit. Chechnya under Ramzan Kadyrov, a former warlord installed by Mr Putin, is a grotesque illustration of this. In the most recent presidential election, Chechnya provided 99.7% of its votes for Mr Putin with a turnout of 99.6%. In return, Mr Kadyrov receives subsidies and freedom to subject his people to his own "informal" taxes and Islamic rules. Moscow pays a dictatorial and corrupt Chechnya a vast sum in return for Mr Kadyrov pretending to be part of Russia and pledging loyalty to Mr Putin.

If Mr Putin goes and the money runs out, Chechnya could be the first to break off. This would have a dramatic effect on the rest of the north Caucasus region. Neighbouring Dagestan, a far bigger and more complex republic than Chechnya, could fragment. A conflict in the Caucasus combined with the weakness of the central government in Russia could make other regions want to detach themselves from Moscow's problems.

Tatarstan, home to 2m Muslim ethnic Tatars and 1.5m ethnic Russians, could declare itself the separate khanate it was in the 15th century. It has a strong identity, a diverse economy, which includes its own oil firm, and a well-educated ruling class. It would form a special relationship with Crimea, which Crimean Tartars (at last able to claim their historic land) would declare an independent state.

The Ural region could form a republic—as it tried to do in 1993—around Yekaterinburg, Russia's fourth-largest city, or else it could form a union with Siberia. Siberia itself could revive its own identity, from a base in the cities of Krasnoyarsk and Irkutsk, and lay claim to its oil-and-gas riches, which it would sell to China. Unlike Russia, China might not have much interest in territorial expansion into the sparsely populated Far East and Siberia, but it could (and already does) colonise these regions economically. Vladivostok and Khabarovsk, two of the largest cities in the Far East, are more economically integrated with China and South Korea than they are with the European part of Russia.

Things fall apart—with nukes inside

Despite Russia's deep paranoia that America is trying to break it up, such a scenario is one of the West's worst nightmares. It opens the question of control over Russia's nuclear arms. Although the command centre would remain in Moscow, securing missiles spread across Russian territory could be harder than it was after the collapse of the Soviet Union. At the time, the Russians ➤

► and Americans worked successfully together to move the nuclear arsenal from Ukraine and Kazakhstan to Russia. Ukraine was given a piece of paper—called the Budapest memorandum and signed by Russia, America and Britain—which guaranteed its territorial integrity in exchange for giving up its nuclear arms. Now, Russia's annexation of Crimea has made any such assurance worthless.

The spectre of disintegration is already haunting Russia. Politicians and pundits are scared to discuss it publicly. Shortly after annexing Crimea and stirring separatism in eastern Ukraine, the Kremlin introduced a law which makes “incitement of

any action undermining Russia's own territorial integrity” a criminal offence. Yet the greatest threat to Russia's territorial integrity is posed by the Kremlin itself and its policies in Ukraine.

By breaking the post-Soviet borders, Mr Putin opened a Pandora's box. If Crimea “historically” belongs to Russia as he has claimed, what about Kaliningrad, the former Königsberg, an enclave which Germany lost to Russia after the second world war? Should not eastern Karelia, which Finland ceded to the Soviet Union after the winter war in 1940, be Finnish and the Kuril Islands return to Japan?

Even more perilously for Russia's fu-

ture, Mr Putin brought into motion forces that thrive on war and nationalism. These are not the forces of imperial expansion—Russia lacks the dynamism, resources and vision that empire-building requires. They are forces of chaos and disorganisation. Eastern Ukraine has turned into a nest of criminals and racketeers. They cannot spread Russian civilisation, but they can spread anarchy.

In short, Russia under Mr Putin is much more fragile than it looks. Vyacheslav Volodin, his deputy chief of staff, recently equated Mr Putin with Russia: “No Putin, no Russia,” he said. It is hard to think of a worse indictment. ■

If a NATO member comes under attack

Article of faith

How the West would recognise, and respond to, a Russian offensive

RUSSIA'S aggression in Ukraine has given NATO both a new sense of purpose and a new kind of threat: “hybrid” warfare. The alliance's military analysts have been working on “detailed, granular” but secret plans for a range of crisis scenarios.

The overarching assumption is that Russia's president, Vladimir Putin, flushed by the success of annexing Crimea and prising away Ukraine's Donbas region, moves on to something even more ambitious. His goal: to undermine NATO and the European Union, by concentrating his well-honed techniques of hybrid warfare on two Baltic states that share a land border with Russia—Latvia and Estonia.

Hybrid warfare brings together military and non-military instruments to discombobulate the target state. Unlike Ukraine, the Baltic states are members of both the EU and NATO and are covered by the military alliance's commitment to collective security under Article 5 of the 1949 Washington treaty that deems an attack on one as an attack on all. But this was conceived in an era when there was no doubt whether a country was under military attack or not. The big question is whether it is fit for purpose in dealing with 21st-century Russian tactics, which use ambiguity and deniability to make it hard to gauge whether an attack is really under way. Only once in NATO's 66-year history has Article 5 been invoked—after the attacks of September 11th 2001—and at the time it was controversial whether this was a proper use of the alliance's biggest stick.

This is how Mr Putin might test it. Working to its established game plan, Russia starts by stirring up the resentments of

Russian-speakers (47% of Estonia's population and 37% of Latvia's), bombarding them with propaganda about the discrimination they are supposedly subjected to. Using agents provocateurs to foment pro-Russian demonstrations in the capitals, Riga and Tallinn, Russia does all it can to undermine the authorities in both countries. Ethnic Russians from Estonia and Latvia who were encouraged to fight with their “brothers” in eastern Ukraine stand ready to carry on the fight back home.

As the situation deteriorates, Mr Putin orders snap exercises of elite troops on the Russian side of the border, giving him the option of military intervention with little notice. Drills of this kind were a critical element in the destabilisation of Ukraine. Cyber attacks are stepped up, adding to confusion, and NATO faces a huge increase in incursions into allied airspace in the region by Russian aircraft. Next, “self-defence forces” start forming in areas with many ethnic Russians, organised by soldiers wearing the same green uniforms shorn of insignia as the “little green men” who suddenly turned up in Crimea.

Estonia and Latvia ask NATO to declare that an Article 5-invoking event is under way and thus to commit all the alliance's members to come to their defence. But, unsure that a full-scale response is justified at this stage, and with Mr Putin warning that any escalation by NATO could force Russia to consider using nuclear weapons to defend itself, the alliance's “parliament”, the North Atlantic Council, cannot reach the required consensus of all 28 countries. The insistence of Germany that all political means of defusing the crisis must be

brought to bear before going down a path that could lead to a major war in Europe finds many supporters. Thus, the bedrock assumption on which NATO's credibility and thus the security of Europe rests has been tested and found wanting.

Not so fast, Vladimir

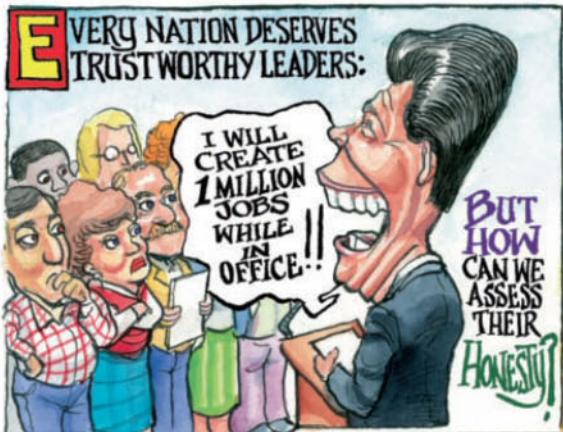
How likely is such a scenario? Perhaps Mr Putin regards the risk of taking on NATO as too great. Even his Ukraine escapade has stretched Russia's military resources.

But the allies cannot afford to rely on that. They have drawn up plans to hold the NATO Response Force, which has at its disposal 13,000 well-equipped troops, at a much higher state of readiness. A “spearhead” force of about 5,000 troops will be deployable at the first sign of trouble, possibly within hours, on the order of the alliance's supreme commander, General Philip Breedlove, without the usual requirement for consensual political approval. NATO's new secretary-general, Jens Stoltenberg, says it is also helping its front-line states improve their intelligence-gathering and situational awareness. Knowing what an aggressor is planning and understanding early on what is happening on the ground are vital.

Heinrich Brauss, NATO's assistant secretary-general for defence policy, stresses the need for speedy decision-making: “One week”, he says, “could be too long in the event of a hybrid attack. We are now significantly accelerating our procedures.” He refuses to define what might trigger Article 5. “Some ambiguity is necessary,” he says. But an adversary “must know that NATO is capable and willing to act”. ■



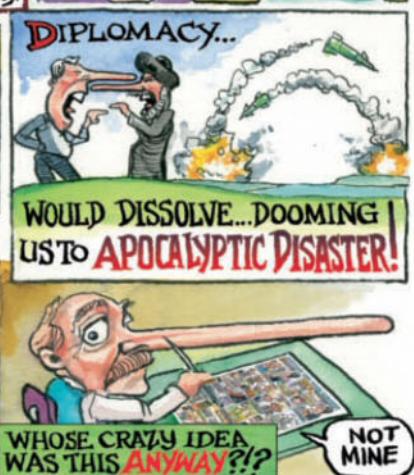
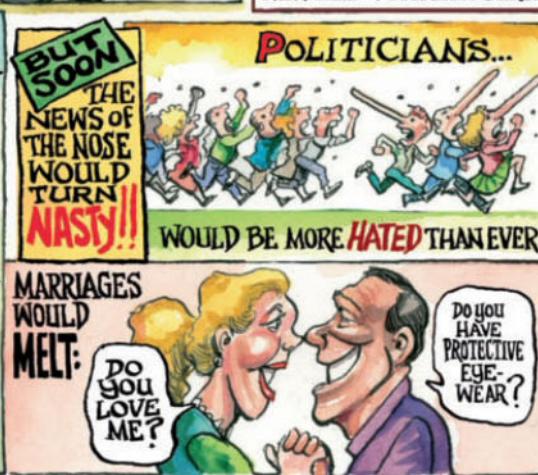
SUPPOSE THE NOSE KNOWS



WHAT IF

PEOPLE'S NOSES ACTUALLY GREW WHEN THEY LIED?

THAT'S A STRETCH...



If the yuan competes with the dollar

Clash of the currencies

SHANGHAI

The yuan's rise will challenge America, but not before China changes

WHEN will the yuan rival the dollar? Many in China think it only a matter of time. Chen Yulu, a leading economist, says it will take 15 years. Wei Jianguo, deputy head of a major think-tank, puts it at 20. Officials are more circumspect: currency internationalisation will be a long process, its pace determined by the market, says Zhou Xiaochuan, the central-bank governor. Outside China, opinions are more divided. Some think the yuan is already on the verge of displacing the dollar in Asia; others predict it will never get there.

What difference would it make if China's currency did vie with the dollar for global pre-eminence? Scholars have looked for clues in the transition from the pound to the dollar, but that took place around the middle of last century in a very different context. The dollar and the pound were both convertible into gold at fixed rates, making the leap of faith for those switching from one to the other much less of a risk. Today, reserve currencies are not backed by gold. Their value is more slippery—a function of supply and demand.

What is more, the shift from the pound to the dollar reflected a passage of economic power, one that had started many decades earlier, between two allies with shared democratic values and economic ideas. China's leaders talk of the yuan's in-

ternationalisation in peaceful terms. A more diverse monetary system will breed financial stability for the world, they say. But China's rise poses a bigger threat to America than America's did to Britain. For all the paeans to mutually beneficial development, China is a possible adversary, governed by an autocratic regime with a statist approach to the economy.

Some in China thus take a darker view of how competition between the yuan and the dollar will play out. Song Hongbing, author of "Currency Wars", a conspiracy-laced series of books, foresees America fighting the yuan every step of the way. That has been shown to be wrong, so far. Over the past five years China has built a network for yuan-trading around the world, and America has not tried to thwart it. But a glimpse of the potential for conflict came last year when America tried, unsuccessfully, to persuade its allies to stay out of the Asian Infrastructure Investment Bank, launched by China. America is pushing for a Pacific trade deal that excludes China. And it is striking that among the many yuan-trading hubs established by China, from London to Singapore, the one glaring hole in the network is New York.

America has good reason to worry about the yuan. Its emergence as a credible alternative to the dollar would undermine

a cornerstone of American power. Sanctions against Iran and North Korea have had bite because of the dollar's centrality to global finance. Some 45% of all cross-border transactions are denominated in dollars. So any bank with international business needs access to the American banking system, to clear payments or manage cash. And for that it needs an American licence, which means it had better heed the sanctions. China knows how potent this is. In 2013, after America hit North Korea's main foreign-exchange bank with sanctions, Bank of China stopped serving its North Korean client. In 2012, at the height of American pressure on Iran, China grudgingly cut imports of Iranian oil.

The dollar's political leverage will dissipate as the yuan goes global. China is already close to launching a system for processing cross-border yuan payments. Although described blandly as a platform for facilitating transactions, its consequences could over time be far-reaching. It will allow banks and companies to move money around the world on a financial superhighway delinked from the dollar.

America will find it far harder to track who is using the China International Payment System (CIPS) and for what. The threat of exclusion from the American financial system will start to lose its force. And China would have a new tool to propagate its way of thinking. When heads of state meet the Dalai Lama, the Tibetan spiritual leader regarded by China as a separatist, they may find their banks placed on the CIPS blacklist. This tactic would damage the yuan's standing if used too liberally, but the mere threat of punishment might be enough for China to get its way.

A global yuan would also win China more respect. China has shown that it wants to be seen as a good citizen of the ➤

A tale of three currencies

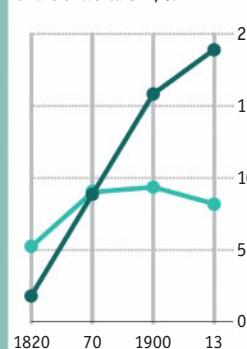
The road to dollar-yuan rivalry: the story so far...

1820-1913

America's economic surge

US economy takes off, yet the pound remains the world's dominant currency

Share of world GDP, %



1913

Founding of the Federal Reserve

The central bank's formation makes the dollar a viable currency for global trade

Founding of the Federal Reserve



1950-60

The dollar takes control

Post-war US dominance turns the dollar into the global currency of choice



1978-79

China begins economic reforms

Deng Xiaoping ends central planning and opens China to foreign trade

1978-79

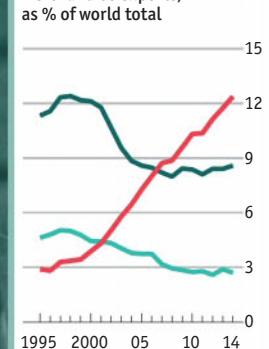


1995-2014

China trades its way to power

China becomes top exporter and begins to push the yuan as a global currency

Merchandise exports, as % of world total



world at times of trouble. In 1997-98, during the Asian financial crisis, and in 2008-09, during the global one, it locked the yuan in place against the dollar. This reassured other countries that it would not use depreciation as a crutch for its economy. As international use of the yuan increases, China will be in a position to do more, by serving as backstop to the global financial system.

Yuan-upmanship

When Lehman Brothers collapsed in 2008, the Federal Reserve provided emergency swap lines to banks around the world. If a crisis hits in two decades' time, China could play a similar role. It is assembling the framework to lend such support by establishing currency swaps with many nations, from Argentina to Russia.

The economic consequences of the yuan's rise would be momentous. The "exorbitant privilege" that goes with being the issuer of the dominant currency would ebb for America. Because there is so much demand for dollar assets—more than 60% of all global central-bank reserves are held in dollars—America and companies based there can sell bonds for higher prices than they could otherwise. Since bond yields move inversely to prices, this means it costs less for Americans to borrow—so it is easier for the government to fund its deficits and for firms to raise money.

How much is this exorbitant privilege worth? Researchers found that yields on American ten-year treasury bonds were as much as a percentage point lower in the early 2000s thanks to the dollar's status. America is also able to issue all its debt in dollars. The currency mismatch that often triggers debt crises in smaller economies is

thus off the cards; the Federal Reserve can simply print more dollars to pay off the government's liabilities. The benefits add up to \$100 billion a year for America, estimates the McKinsey Global Institute.

But there are also downsides. Demand for the dollar as a reserve asset means the currency is stronger than it would otherwise be, making it harder for American exporters to compete. McKinsey found this lops as much as \$60 billion off GDP. Net, America still gains 0.3-0.5% of GDP a year thanks to the dollar's status.

When the yuan rivals the dollar, China will eat into this pie. Investors from other countries might sell off dollar assets since



A global monetary system with multiple poles could in theory engender greater economic stability

they would have alternatives in the yuan; this would drive up American interest rates and weaken the economy. Researchers have shown that the Fed can mitigate but not fully counteract this effect by buying the bonds sold by foreigners. The upshot is that America would have to work harder to retain the confidence of global investors, perhaps leading it to rein in government debt.

But the changes required of China would be even more dramatic. In his account of how the dollar remained the world's pre-eminent currency despite being at the centre of the global financial crisis, Eswar Prasad, an economist at Cornell University, explains that its strength resides in America's institutions. Deep financial markets, a robust legal system and a generally transparent political process underpin the dollar. Faith in these make America and its currency a haven.

China would have to build a similar complement of institutions to persuade investors that the yuan is as reliable. It would need to make its currency truly convertible, stop intervening in its exchange rate and build a big, liquid, transparent bond market. Heavy-handed intervention to prop up stocks when they recently crashed shows how far China is from developing a mature financial system. China would also, like America, need proper rule of law. This would require allowing courts to go against the wishes of the Communist Party, something unthinkable for now. And through all this, China needs to keep its economy marching forward. Stagnation would undermine the yuan's appeal.

If China somehow accomplishes all that, a global monetary system with multiple poles could in theory engender greater economic stability. America and China might compete to make their respective

currencies more attractive by demonstrating sound fiscal and monetary policies. The exorbitant privilege would become an extraordinary responsibility. But there would also be new risks—"more room for friction and accidents", says Alan Wheatley, editor of a recent book about reserve currencies. With the dollar's status in doubt, there might be damaging uncertainty about where to turn for a safe harbour when the next financial tsunami strikes.

How likely is any of this to happen? The dollar has a huge incumbent's advantage. Political gridlock in Washington risks chipping away at that, as might excessive use of the sanctions that reserve-currency status allows America. Much will depend on Chinese policy. The key is to make China's financial system as deep, open and trusted as America's. That is a long-term project, but China can speed things up a little with specific policy changes—for instance, lowering barriers to foreign investment in its bond market.

China's record over the past five years, when it began to promote yuan internationalisation, is impressive. The share of Chinese cross-border trade settled in yuan rose from nothing in 2009 to 22% last year. It is now the fifth-most-used currency for international payments. The IMF is debating whether to adjust its special drawing right, a basket of reserve currencies, to include the yuan. Still, this is a far cry from its rivalling the dollar. Some 50 central banks have invested reserves in yuan, but only in small amounts. Foreigners hold \$200 billion in Chinese stocks and bonds; they have 80 times more—\$16 trillion—in American securities. For now, the yuan is a bit player on the global stage. But at the start of the 20th century, so was the dollar. ■

...the next chapter?

2015-2030

Rise of the yuan

China passes America as the biggest economy and overhauls its market structure. The yuan starts to rival the dollar



WHAT IF

France and America swapped working hours?

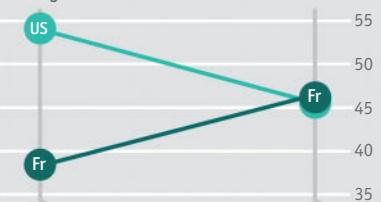
Average annual hours worked in 2013



GDP* per person, current prices, 2014, \$'000

at current working hours

with working hours reversed†



Source: OECD

*At purchasing-power parity

†Assuming constant productivity

If the world introduces a "Piketty tax"

Squeezing the rich

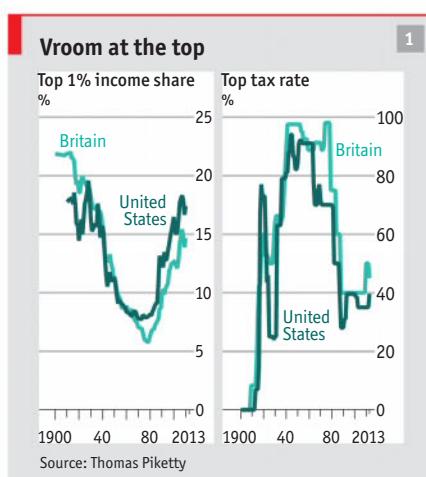
Thomas Piketty, a superstar economist, favours the introduction of a global wealth tax. Its impact might be surprisingly small

IN A speech in 2013 Barack Obama labelled inequality "the defining challenge of our time". A few months later a book on the subject by Thomas Piketty, an economist at the Paris School of Economics, became an unlikely bestseller. It walked readers through centuries of data and a theory of inequality before leaving them with a bold policy recommendation: to prevent a dangerous rise in the concentration of wealth, the world's governments ought to co-operate to enact a global wealth tax.

Egalitarian themes remain popular on campaign trails, but the wealth-tax idea has so far failed to gain ground. Yet in the right circumstances, might a "Piketty tax" emerge from the messy world of democratic politics? Two preconditions are in place. First, inequality within countries is soaring, as it was when progressive taxation first became widespread, in the early 20th century. Around the world top earners are gobbling up a larger share of income than they have for decades (see chart 1, left-hand side). Wealth has also rebounded. New research suggests that the share of wealth held by the top 0.1% of American households has leapt from about 7% in 1979 to as much as 22% in 2012.

Second, governments have piles of debt to pay down. Tax rates rose sharply as governments struggled to finance the second world war, then gradually fell in post-war decades (chart 1, right-hand side). In recent years, most of the continental economies that had in place an annual wealth tax repealed it. But government borrowing zoomed up again thanks to the financial crisis. Across the rich world debt as a share of GDP is 50% higher than it was before the financial crisis, on average (chart 2). When push comes to shove, those with the most will be asked to pay more.

How much more? Though Mr Piketty reckons taxes on the incomes of the rich should be 75% or more, his proposals for a wealth tax are generally modest. In his book he suggests that those with fortunes worth less than €1m (\$1.1m) might pay nothing, while a tax of 1% would apply to fortunes between €1m and €5m, and 2% to those greater than €5m. Some speculate that a wealth tax of this sort could emerge as part of a deal to simplify America's tax rules and reduce income-tax rates. In a column in the *Wall Street Journal* in 2012, Ronald McKinnon, a late, eminent economist,

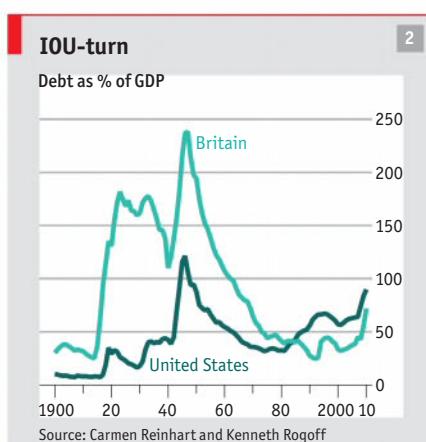


argued that American conservatives should support a wealth tax in exchange for cuts in other tax rates. He reckoned that high income taxes create poor incentives for productive workers, but could be slashed only if Democrats were offered a highly progressive wealth tax in return.

Following America's lead

Impossible? Suppose America's Congress were controlled by business-friendly Republicans keen to streamline the tax system and cut rates. And the White House were occupied by a Democrat open to tax reform but prepared to veto any bill without a strong progressive component. Congressional haggling could produce a wealth tax as the linchpin of a deal.

It would bring no great windfall. Data on personal wealth are patchier than in



come statistics—one of the reasons, Mr Piketty complains, why governments find it hard to tax wealth. But figures from America suggest that between 6m and 7m households, or about 5%, have a net worth (meaning the value of assets less debt) of more than €1m, and about half as many have a net worth of €2m or more. At present, in other words, a wealth tax like the one described by Mr Piketty might bring in a few hundred billion dollars a year, or a bit less than the federal government receives each year in corporate income-tax receipts. The numbers could be lower if households responded to the tax by reallocating their wealth from easily valued assets like equities to woollier ones, like rare antiquities, or if they found ways to exaggerate the apparent value of household debts, which reduce the value of taxable net wealth.

However, an American tax would put the power of its authorities, with their extraterritorial reach, on the case. The Internal Revenue Service would demand that foreign governments keep better data on American wealth held abroad, and might threaten legal action against banks that refused to co-operate. As information accumulated about where and how much wealth was held across the globe, the temptation among foreign governments to tax those hoards would grow.

In economic theory, taxes on wealth are bad for growth, since they discourage saving and investment. But evidence from wealth taxes in Europe suggests the effect on growth and entrepreneurship is tiny. Asa Hansson of Lund University in Sweden calculates that a 1-percentage-point increase in wealth tax reduces growth by between 0.02 and 0.04 percentage points. If a wealth tax were a part of a bargain that trimmed personal and corporate tax rates, it is possible that neither growth nor wealth would be harmed much.

But nor would it qualify, strictly speaking, as a Piketty tax. To curtail growth in inequality, Mr Piketty reckons, a wealth tax must be paired with higher taxes on personal and corporate income, not adopted in exchange for lower rates. So for the full complement of egalitarian policies to be enacted, a third precondition must be met: a shift in political power. The wealth-compressing policies of the early 20th century were rooted in dramatic changes in the political landscape: the expansion of the franchise to those without property, and the explosive growth of the state in response to war and depression. They also included more than just tax; regulations shored up labour rights, while public investment and nationalisations nurtured public wealth at the expense of private fortunes.

That is the irony of Mr Piketty's call to arms. A wealth tax that emerges in the absence of tectonic political change will not alter economic growth or the overall tax burden on the wealthy by very much. ■



If the Panama Canal gets a rival Trench warfare in Nicaragua

BRITO

Why a Chinese firm might dig a giant waterway through America's backyard

NEAR the mouth of the Brito river there are no paved roads, no earthmovers and no signs of construction yet. There is a beach, a mangrove swamp teeming with crabs, and a shirtless drifter called Peyró, whose hobby is riding bulls. There are no ships. The only crafts along this remote stretch of the Pacific are surfboards. Could this really be the place where within a decade the world's largest vessels will enter Nicaragua and pass through forest, lake, mountain and jungle between the Pacific and the Atlantic oceans? Peyró looks mystified. "Only God knows," he says.

And China, perhaps. Two years ago Nicaragua put its sovereignty in hock by giving a concession of up to 100 years for a canal that could cost \$40 billion-50 billion to Wang Jing, a Chinese telecoms magnate. His company, HKND, says it will soon be ready to start digging an entrance channel near this spot. The next step will be a port a few miles inland big enough to process 500-metre-long ships with five times the container-carrying capacity of those that currently traverse the Panama Canal.

Respectable firms such as McKinsey, a business consultant, and ERM, an environmental one, have put their reputations on the line assessing the feasibility of the 260km (162-mile) canal. It is surely one of the world's most improbable infrastructure projects. However, Bill Wild, the chief project adviser, appears raring to go. "It's massive. I can't stress enough how big it is.

But it's technically relatively straightforward," he says.

The construction alone would be a spectacle. Some 50,000 labourers (perhaps a quarter of them Chinese) might work on site, and 2,000 diggers, dredgers and other giant machines would excavate about 5 billion cubic metres (177 billion cubic feet) of dirt, using 5 billion litres of fuel in the process. They will lay what they dig up 1.5km either side of the canal, which HKND promises to turn into new arable land about three times the size of Manhattan, partly for the 30,000 people uprooted from their homes.

Construction will no doubt damage the environment. A 107km-long, 280-metre-wide trench will be dredged through pristine Lake Nicaragua, rainforests will be uprooted, big-cat migration routes traversed and indigenous families ousted from sacred lands. Mr Wild pledges that, when finished, the reforested land along the canal route will be better cared for than it is now. But can any pharaonic enterprise, let alone a Chinese one, be trusted not to cut corners? Environmentalists will try to block it every step of the way.

Size matters

If completed, the canal would symbolise a shift in global shipping. The two-lock waterway could take vessels with a proposed freight capacity of 25,000 20-foot containers, or 20-foot equivalent units (TEUs); cur-

rently the biggest ships have a capacity of around 19,000 TEUs and make up a tiny fraction of the world fleet. Even the expanded Panama Canal, due to open in 2016, is limited to taking cargoes of 13,000 TEUs, so ships that otherwise would have rounded Cape Horn or gone via Suez would be able to move more easily between east and west. But container trade is slowing, as consumer-goods production moves closer to home. HKND is betting that ship sizes will increase to bring down costs per container.

Some believe that if the Chinese government is a backer of the project, the transit of military as well as commercial vessels may be a hidden part of the agenda. "Just as the United States wants to expand in the Pacific, it's not unreasonable that China will want to do so in the Atlantic. Any educated person can see the strategic possibilities," acknowledges Manuel Coronel, the head of the Nicaragua Grand Canal Authority.

So far, America has been phlegmatic about the enterprise. Perhaps, like Jorge Quijano, administrator of the Panama Canal, it believes that financially the project is a bottomless pit and has no future. Mr Quijano reckons that for the Nicaraguan canal to earn a competitive return on investment, it would have to charge double the tolls levied in Panama, which would put off most customers.

Nicaragua's Sandinista rulers shrug off the worry. "If China is behind the project, it will not be a big problem for Wang Jing to get the financing," Mr Coronel says. After all, what wouldn't China pay to see one of its naval fleets one day emerging from the Central American jungle right under America's nose? ■

WHAT IF

the internet went down for a day?

These would have to wait:

196 bn e-mails

12 bn Facebook & YouTube video views

3 bn Google searches

500 m tweets



Sources: Radicati Group; Ampere Analysis; Google; Twitter

Debate

If the rich world aimed for minimal growth, would it be a disaster or a blessing?



A DISASTER

Adam Posen is president of the Peterson Institute for International Economics, a think-tank on economics and globalisation



A BLESSING

Tim Jackson is professor of sustainable development at the University of Surrey and Director of the Centre for the Understanding of Sustainable Prosperity

ECONOMIES naturally grow. People innovate as they go through life. They also look around at what others are doing and adopt better practices or tools. They invest, accumulating financial, human and physical capital.

Something is deeply wrong if an economy is not growing, because it means these natural processes are impeded. That is why around the world, since the Dark Ages, lack of growth has been a signal of political oppression or instability. Absent such sickness, growth occurs.

So the question of whether rich countries have been aiming for excessive growth is profoundly misguided. The real question is whether they are getting barriers out of people's way enough to allow growth to take place. Sometimes it requires regulation or public investment or even redistribution, rather than laissez-faire, to remove those barriers.

Fundamentals of demography, education, capital and technology determine growth potential. A government that aims at "maximal" growth above this potential will quickly be frustrated— inflation will rise, bottlenecks will occur, financial markets will "correct". A country that pursues growth persistently below potential suffers more acutely. The prospects of younger people dim, as they have in southern Europe during the forced contraction of the euro crisis. Savings are eroded, leaving many older people unable to maintain their health care and basic income.

Climate change and water scarcity, among other resource-driven threats, are real concerns. But mispricing of their true costs and misallocation of those resources are their cause, not economic growth. If anything, greater rich-country growth is the hope for dealing with those mounting disasters, in two ways.

First, it is economies growing on average at potential (Japan in the 1980s, Germany in the 2000s and now China) which have led in reducing their carbon emission per unit of GDP. Even America has improved in this regard, despite its childish political denials of global warming, because of the natural tendency for healthy growth to promote efficiency.

Second, to the degree that closure of unclean industries or inefficient processes is required to reduce environmental harm, more growth makes that adjustment easier. Laid-off workers can more easily find new employment and special interests blocking progress can more easily be bought off. Given that rich-country environmental problems are primarily political, caused by politicians' lack of courage to price carbon and water properly, growth is necessary (though not sufficient) to change those politics.

For the other great global moral challenge, the reduction of poverty in the poor world, the argument is the same, but with even clearer evidence. More people have exited poverty globally in the past 30 years than in all of prior human history, precisely because the rich world steadily grew at potential rates for most of the time. That rich-country growth led to the diffusion of innovations to poorer countries and the expansion of markets for their exports. This would not have happened if the rich world had strived for minimal growth. ■



"ANYONE who believes that exponential growth can go on forever in a finite world is either a madman or an economist," remarked (the economist) Kenneth Boulding. John Stuart Mill devoted an entire chapter of his "Principles of Political Economy" to the concept of the "stationary state"—a state that he believed would be "on the whole, a very considerable improvement on our present condition".

Yet the pursuit of economic growth has been the single most prevalent policy goal across the world for the past 70 years. Global output is now more than eight times higher than it was in 1950. If it continues to grow at the same average rate, then the world economy will be $17\frac{1}{2}$ times bigger in 2100 than it is today: a staggering 146-fold increase in economic scale in the space of just a few generations.

This unprecedented ramping up of economic activity is increasingly at odds with the ecological constraints of a finite planet. By the turn of this century, it had been accompanied by the degradation of an estimated 60% of the world's ecosystems. Earlier this year the Stockholm Resilience Centre, at Stockholm University, identified four key areas in which human activity already lies beyond the "safe operating space" of the planet: climate change, land-use change, loss of biosphere integrity and overload in bio-geochemical cycles.

The default response to this dilemma is to suppose that we can "decouple" growth from its material impacts and continue to do so as the economy expands indefinitely. But the arithmetic of decoupling is a profoundly challenging one. A widening scientific consensus now accepts, for instance, that tackling climate change entails achieving zero net carbon emissions by 2100 and an economy that is taking carbon out of the atmosphere, rather than adding to it, in the second half of this century.

Technological options to achieve decoupling clearly exist. But the most financially attractive of them (an aggressive pursuit of energy efficiency) may simultaneously make the task harder, as another economist, William Stanley Jevons, once pointed out, by increasing demand still further. Green investment opportunities are certainly there. But financial priorities and institutional incentives are often pointing in entirely the opposite direction.

Most often, what stands in the way of progress is an undying allegiance to growth at all costs. Growth must go on, we insist: not just for the poorest countries, where a better quality of life is desperately needed; but even in the affluent West, where the satisfaction of human needs was long since transformed into a rampant and potentially damaging consumerism.

Questioning growth is now deemed to be the act of lunatics, idealists and revolutionaries. Yet question it we must. The mantra of growth has failed us. It has failed the 2 billion people who still live on less than \$2 a day. It is damaging the fragile ecology on which we depend for survival. It has fuelled our addiction to spiralling debt. Prosperity for the few, founded on financial instability, ecological destruction and persistent social injustice, is no basis for a civilised society. ■



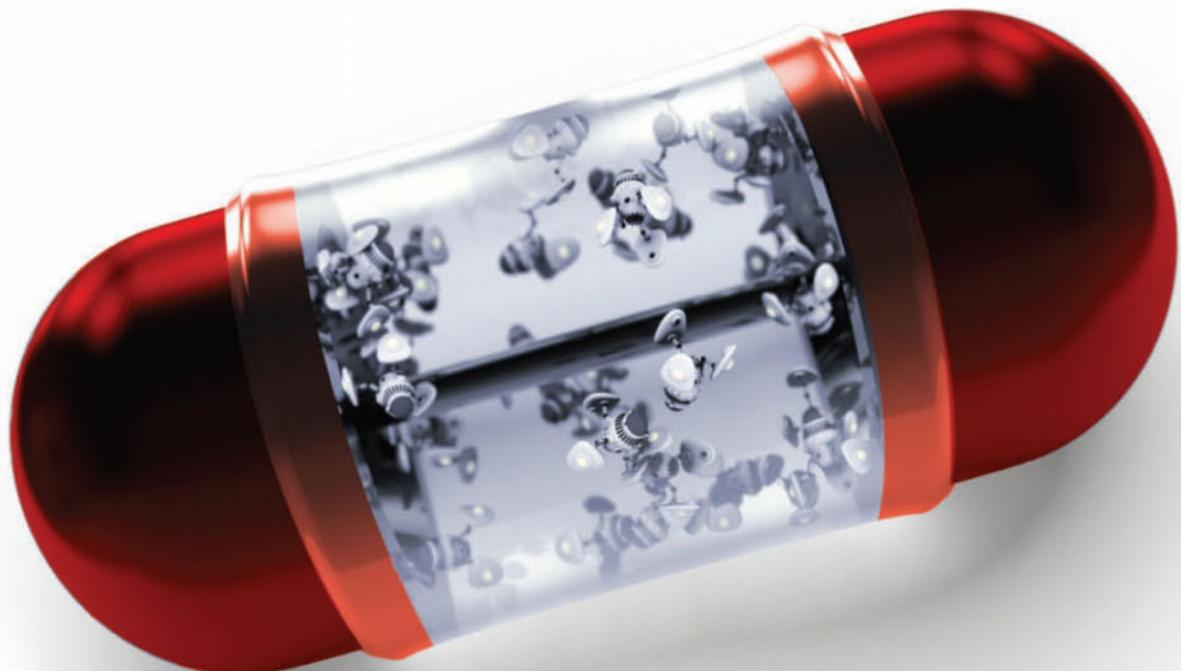
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ahead
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If autonomous vehicles rule the world

From horseless to driverless

SHANGHAI

Overturning industries and redefining urban life, self-driving cars promise to be as disruptive and transformative a technology as the mobile phone

SHORTLY after Thomas Müller eases his Audi A7 into the flow of highway traffic heading towards Shanghai, a message on the dashboard indicates that “piloted driving” is now available. Mr Müller, an Audi engineer, presses a button on the steering wheel and raises his hands. The car begins to drive itself, the steering wheel eerily moving on its own as the traffic creeps over a bridge towards the city centre.

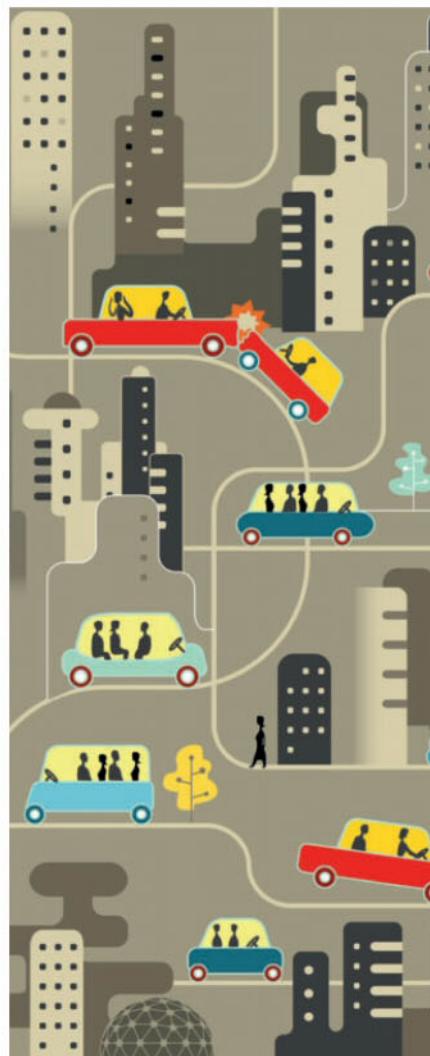
This is, admittedly, a limited form of autonomy: the car stays on the same road, using cameras and a “LiDAR” scanner to follow the lane markings and maintain a constant distance from the vehicle in front. But this is how the world’s carmakers see the future of self-driving technology: as driver-assistance features that gradually trickle down from luxury vehicles to mass-market cars, just as electric windows and power steering did before them. Autonomous driving will, in this view, make motoring less stressful—drivers “arrive more relaxed”, says Mr Müller—but people will still buy and own cars just as they do today.

For a different vision of the driverless future, visit Heathrow airport outside London, and head to a “pod parking” area. Transfers between the car park and terminal are provided by driverless electric pods moving on dedicated elevated roadways. Using a touchscreen kiosk, you summon a pod and specify your destination. A pod, which can seat four people, pulls up, parks itself and opens its doors. Jump in, sit down and press the start button—the only control—and it drives you to your destination, avoiding other pods and neatly parking itself when you arrive, before heading off to pick up its next passengers.

Like riding in the autonomous Audi, travelling by pod is thrilling for the first 30 seconds—but quickly becomes mundane. The difference is that self-driving vehicles that can be summoned and dismissed at will could do more than make driving easier: they promise to overturn many industries and redefine urban life. The spread of driver-assistance technology will be gradual over the next few years, but then the emergence of fully autonomous vehicles could suddenly make existing cars look as outmoded as steam engines and landline telephones. What will the world look like if they become commonplace?

The switch from horse-drawn carriages

to motor cars provides an instructive analogy. Cars were originally known as “horseless carriages”—defined, like driverless cars today, by the removal of a characteristic. But having done away with horses, cars proved to be entirely different beasts, facilitating suburbanisation and becoming symbols of self-definition. Driverless vehicles, too, will have unexpected impacts. They will look different. Early cars resembled the carriages from which they were derived, and car design took some years to escape its horse-drawn past. By the same token, autonomous vehicles need look nothing like existing cars. Already, Goo-



gle's futuristic pods are on the public roads of California, and some concept designs, liberated from the need to have steering wheels and pedals, have seats facing each other around a table.

Autonomous vehicles will also challenge the very notion of car ownership. Cars are among the most expensive things most people own, yet they sit idle, on average, 96% of the time. That is justified by the convenience of having access to a car whenever you need it. These days, however, you can summon a car at will using a smartphone app for a taxi service, car-sharing scheme or rental provider. Google reckons that shared, self-driving taxis could have utilisation rates of more than 75%. If so, a much smaller number of cars would be needed to move the same number of people around. “There will be fewer cars on the road—perhaps just 30% of the cars we have today,” predicts Sebastian Thrun, a computer scientist at Stanford University and a former leader of Google’s self-driving-car project.

The idea that autonomous vehicles will be owned and used much as cars are today is a “tenuous assumption”, says Luis Martinez of the International Transport Forum, a division of the OECD, a think-tank. Fleets of self-driving vehicles could, he says, replace all car, taxi and bus trips in a city, providing as much mobility with far fewer vehicles. An OECD study modelling the use of self-driving cars in Lisbon found that shared “taxibots” could reduce the number of cars needed by 80-90%. Similarly, research by Dan Fagnant of the University of Utah, drawing on traffic data for Austin, Texas, found that an autonomous taxi with dynamic ride-sharing could replace ten private vehicles. This is consistent with the finding that one extra car in a car-sharing service typically takes 9-13 cars off the road. Self-driving vehicles could, in short, reduce urban vehicle numbers by as much as 90%.

Driven to tears

All this would be transformational for carmakers. They would end up selling autonomous vehicles to fleet operators, rather than to individual drivers. The value in car-making will shift from hardware to software and from products to services, says Mr Martinez. That would shake existing carmakers, just as smartphones upended Nokia and Kodak. Already, high-tech newcomers such as Google, Uber and Tesla are muscling in.

Yet car-industry executives gamely insist that many people will still want to own their own vehicles and that the popularity of leasing means the industry has already moved to a service model. It sounds a lot like wishful thinking, if not denial.

Carmaking is not the only industry that faces upheaval. So does car insurance—worth \$198 billion a year in America ➤

► alone—as cover switches from millions of consumers to a handful of fleet operators. In February three big American insurers, Cincinnati Financial, Mercury General and Travelers, noted in their SEC filings that driverless cars threaten to disrupt their business. Similarly, LKQ, a car-parts firm, pointed out in its filing that fewer cars on the road, and fewer accidents, could reduce its sales.

Automation would, more obviously, be bad news for taxi drivers. A study by Columbia University found that a fleet of 9,000 autonomous vehicles could replace all 13,000 taxis in New York. Passengers would spend less time waiting, and would pay less per mile, because paying drivers is the biggest cost for taxi operators. No wonder Uber is keen on driverless vehicles.

"When there is no other dude in the car, the cost of taking an Uber anywhere becomes cheaper than owning a vehicle," observed its boss, Travis Kalanick, last year. Uber's first test vehicle was recently spotted on the streets of Pittsburgh.

Other workers stand to lose as well. Rio Tinto, a mining giant, is already using 53 self-driving lorries across three of its sites in Australia. The first self-driving truck licensed for testing on public highways, built by Daimler, hit the road in May. America's 3.5m truck drivers sustain workers in other businesses, too, such as motels and restaurants. The current arguments over Uber, Lyft and other ride-hailing services (which at least still require drivers) may seem like a picnic compared with the opposition to driverless vehicles.

Safety first

But self-driving cars would also have enormous benefits. Today 94% of car accidents are due to human error, according to America's National Highway Traffic Safety Administration, and the three leading causes are alcohol, speeding or distraction. Accidents kill around 1.2m people a year, reports the World Health Organisation, equivalent to a 9/11 attack every day.

Driverless cars cannot drink alcohol, break the speed limit or get distracted by a text message, so accidents should occur much less often. Google's driverless vehicles have driven 1.8m miles (2.9m kilometres) in the past six years, and have been involved in 12 minor accidents, none of which caused injury and none of which was the car's fault. A study by the Eno Centre for Transportation, a non-profit group, estimates that if 90% of cars on American roads were autonomous, the number of accidents would fall from 5.5m a year to 1.3m, and road deaths from 32,400 to 11,300.

Once self-driving vehicles become available, some places will probably ban

ordinary cars on safety grounds, starting with city centres, resorts, business parks and campuses. A report on self-driving cars from Morgan Stanley predicts that attitudes will quickly shift from "I don't want to share the road with robots" to "I don't want to share the road with other human drivers". People in Google's home town of Mountain View, California, are now used to seeing its prototype vehicles on the streets. Some even complain that they drive too timidly, waiting for pedestrians to finish crossing, for example, to the annoyance of drivers revving behind them. Strikingly, nobody seems to be scared of them.

As well as being safer, self-driving vehicles would make traffic flow more smoothly, because they would not brake erratically, could be routed to avoid congestion and



If 90% of cars on American roads were autonomous, accidents would fall from 5.5m a year to 1.3m

could travel close together to increase road capacity. A study by Texas A&M University estimates that 90% penetration of self-driving cars in America would be equivalent to a doubling of road capacity and would cut delays by 60% on motorways and 15% on suburban roads. And riders in self-driving vehicles would be able to do other things. Morgan Stanley calculates that the resulting productivity gains would be worth \$1.3 trillion a year in America and \$5.6 trillion worldwide. Children, the elderly and the disabled could gain more independence (one of Google's videos shows a blind man doing errands in an autonomous car).

With cars in constant use, much less parking space would be needed. Parking accounts for as much as 24% of the area of American cities, and some urban areas have as many as 3.5 parking spaces per car; even so, people looking for parking ac-

count for 30% of miles driven in urban business districts. By liberating space wasted on parking, autonomous vehicles could allow more people to live in city centres; but they would also make it easier for workers to live farther out. If you can sleep on the journey a longer commute becomes feasible, notes Mr Fagnant, who foresees a "simultaneous densification of cities, and expansion of the exurbs".

The bumpy road ahead

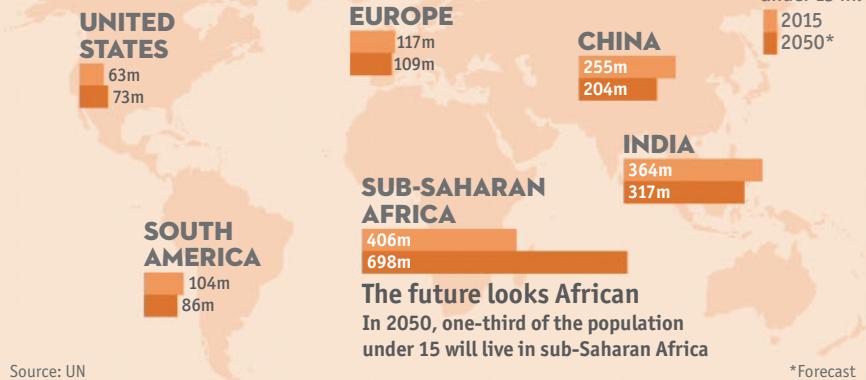
Even though they will have fewer crashes, self-driving cars are sure to be held to a higher standard than human drivers when they are involved in accidents. They will present "new types of crash scenarios", says Mr Martinez. When faced with an unavoidable impact, should self-driving vehicles try to minimise injuries to their own passengers, or minimise harm overall? Autonomous vehicles bring to life questions from the domain of experimental philosophy, or "trolleyology": its theoretical ethical dilemmas involving runaway vehicles seem suddenly all too relevant.

At the very least, says Mr Martinez, regulators will demand that the algorithms that make such judgments should be audited, and their decision processes rendered transparent. Some self-driving vehicles are already fitted with "black boxes" to facilitate investigation of accidents. Regulators will face difficult questions about the legal liability of carmakers and fleet operators.

Car-lovers would doubtless mourn the passing of machines that, in the 20th century, became icons of personal freedom. But this freedom is illusory. The empty roads seen in car advertisements are not most people's experience of driving. In a driverless future, people will come to wonder why they tolerated such a high rate of road deaths, and why they spent so much money on machines that mostly sat unused. A world of self-driving vehicles may sound odd, but coming generations will consider the era of car ownership to have been much stranger. ■

WHAT IF

the world was seen through its children?



Source: UN



If an asteroid heads for Earth Taking the hit

FRASCATI, ITALY

Just because you can move the stars in their courses, it doesn't mean you should

ON APRIL 13th 2015 the Minor Planet Centre (MPC), an office with a staff of six which looks after such matters for the International Astronomical Union, recorded hundreds of newly discovered asteroids—a typical daily haul. The one to which it assigned the name 2015 PDC, though, stood out.

When asteroids are discovered in orbits that come close to the Earth's, as this one did, the MPC makes various calculations to see if they pose a threat. Because observations of small, distant rocks cannot be made with perfect accuracy, those calculations define a "corridor" where the asteroid might be. The calculations for 2015 PDC showed that on September 3rd 2022 the Earth would cross the corridor where the asteroid might be. The two might collide.

That was not, in itself, too worrying. Newly discovered asteroids have had measurable possibilities of hitting the Earth before; further observations, and thus a more precise understanding of the rocks' orbits, have always ruled those impacts out. The one exception to that rule so far, 2008 TC3, was an asteroid only 4 metres (13 feet) across; when it exploded in the upper atmosphere in 2008, just days after its discovery, it mattered to no one except the meteorite hunters who rushed to Sudan to find the remains that fell to Earth.

As 2015 PDC's orbit became better known the corridor in which it might be on that fateful day in 2022 shortened. But it still contained the Earth. By June the probability of an impact had risen to 1%, making it the most threatening asteroid astronomers had ever seen. By September governments in America, Europe, Russia and China had started work on space missions aimed at changing the asteroid's orbit by ramming into it. Even at a speed of more than 10km (6 miles) a second, hitting a billion-tonne asteroid with a few tonnes of spacecraft will make only a minute difference to the asteroid's orbit.

But a minute difference, made early enough, can provide the margin between a near miss and a hit that is palpable on a planetary scale. And 2015 PDC looked like providing such a hit. Early estimates put its diameter between 140 and 400 metres. Even if it were at the small end of that range, though, when it hit the Earth at 11km a second it would release as much energy as hundreds of large nuclear warheads set off simultaneously. At the large end the hundreds would become thousands.

Towards the end of 2015 the sun came between the Earth and the rock, making further observations impossible for a while. After observations resumed the following year, though, an impact became

certain. The remaining uncertainty was about where, exactly, it would hit. The risk corridor was wrapped around the Earth on a great-circle arc that began in the tropical Pacific and ran north-west over the Philippines and across the South China Sea before passing over a swathe of Asia beginning in Vietnam and ending in Iran. The track passed over a surprisingly large fraction of the world's population and three megacities—Dhaka, New Delhi and Tehran. You would have been hard put to have imagined a more threatening rock.

Designed to disturb

That was because Paul Chodas, an asteroid expert at JPL, the laboratory that manages most of NASA's planetary science, had put a lot of his own imagination into making 2015 PDC intriguingly disturbing. He and a few colleagues invented the asteroid, and its orbit, as a scenario to be discussed at the Planetary Defence Conference held in Frascati this April. The scenario unfolded over five days, in breaks between technical papers, with participants drafted in to imagine the reactions of world leaders, the media and the public. Their deliberations revealed a lot about the nature of the threat asteroids pose and the response that a real threat might provoke—a response which could make the danger greater than it would otherwise be.

As with all missions to other parts of the solar system, interceptors aimed at 2015 PDC could be launched only at a specific time defined by the asteroid's orbit. They would have to take off in late August 2019 in order to reach the rock in early March 2020, 900 days before the impact. The largest of the interceptors originally proposed fell by the wayside because the rocket could not be readied in time. Still, the six remaining spacecraft—three American attempts and one each from China, Russia and Europe—were to offer more than enough kinetic energy to change the asteroid's orbit by the two centimetres a second required to make it miss the Earth in 2022.

What was not much discussed—other than by Bhavya Lal of the Science and Technology Policy Institute in Washington, DC, who was representing India in the role-playing—was whether the deflection of the spacefaring powers were undertaking was a good idea. By August 2019 the possible impact sites had been narrowed down to an arc stretching from the Philippines to Vietnam across the South China Sea. An impact in the middle of the sea would have threatened 80m people living on its coasts, almost half of them in China, with tsunami-like waves. The damage could be enormous—but unlike the hazards posed by most natural disasters its timing would be known, to within an hour, years in advance, and its effects could be modelled. Breakwaters could be built in front of the larger cities, evacuation plans perfected, ➤

► nuclear plants at risk from the waves shut down, populations resettled either for a few crucial weeks or for good.

A fair bit of this work would be necessary to deal with the sea-level rises expected due to global warming anyway; the asteroid would just mean getting it done faster. The hundreds of billions of dollars invested would increase GDP, as spending after a disaster does. But this possibility—referred to at the meeting as “taking the hit”—got short shrift.

Oops

Which was a pity, because in Dr Chodas's scenario the deflection went wrong. Instead of being nudged safely onto a new trajectory, the asteroid was cleft in two. The larger part had been given a big enough impulse to no longer be an imminent threat, but the smaller part was still on a collision course. And now its orbit was newly uncertain. The corridor that had been shortening was lengthened, with the once-threatened, then-safe places between Vietnam and Tehran newly at risk again thanks to the actions of space programmes that were mostly based in places (Europe, America, Russia) that were at no direct risk at all. India began work on a mission that would use a nuclear warhead to try to blast the new fragment to smithereens on its final approach—but which might have simply changed its impact point again.

China warned that it wanted a veto over any such mission; if it did not approve of the way it was being done it would feel justified in using anti-satellite weapons to shoot down the Indian rocket pretty much as soon as it took off. Iran, previously safe, fulminated against the Great Satan, and it was hard not to think it had a point. Hannes Mayer, an Austrian lawyer who has given the application of space law to such situations a lot of thought, raised the possibility that by altering the asteroid's orbit the intercepting nations changed its legal status from that of a “celestial body” for which no one was responsible to that of a “space object”—and thus become liable for any damage that it did.

By the end of the scenario, when the asteroid was a few days from exploding in the sky over Dhaka with more power than 1,000 Hiroshima bombs and more than 20m people were being evacuated, that was looking like a great deal of liability. The question of India's last-ditch nuclear interception, and China's worries, were brushed aside as beyond the scenario's scope. In the real world, though, a botched interception which created a crisis for people who would otherwise have avoided one would be a grave issue—perhaps, in some circumstances, *casus belli*.

Bigger rocks have hit the Earth, doing great damage in the process. There is a 90km crater under Chesapeake Bay which bears witness to an impact 35m years ago,

and a 180km crater on the Yucatan which marks the impact site of the rock that ended the age of the dinosaurs. But, in practice, astronomers are confident that their diligent observations have discovered almost every one of the asteroids more than a kilometre wide that cross the Earth's orbit, and none of them poses a threat in the coming centuries. In the coming decades it is likely that ever-more-thorough surveys will mean that there is similar assurance for rocks down to 100 metres or so.

What is more, a rock 250 metres across (the size of 2015 PDC before it was cleft in two) hits the Earth, on average, only once every 500 centuries. So the scenario played out at Frascati is a highly unlikely one. Getting only seven years' warning of such an impact is unlikelier still. With am-

ple time it would be possible to use gentler methods to try to adjust the orbit.

At some point, though, a rock large enough to do real damage—something like the 50-metre beast that exploded over Siberia in 1908 with the force of the largest nuclear weapon ever tested, the sort of visitor statistics suggest should be expected every century or so—will be discovered on the way in. Then the nations of the world will have to decide what to do. The technical fix of moving it will appeal to some; and if there is time enough and the impact site is valuable enough, then they might be wise to try it. But the lessons of 2015 PDC, in which a disaster that might well have been weathered, if at huge expense, was traded for one in which a megacity was destroyed, should give them pause. ■



If India's monsoon fails A billion-person question

DELHI

A more erratic rainy season in India could lead to mass famine. But there are ways to avoid such a disaster

NOTHING in India is as terrifying as the thought that the monsoon might not come. Robert Kaplan, in his book “Monsoon”, claims global warming is causing a more erratic monsoon, which “could spell disaster”. Around half of India's population, some 600m people, still depend on farming, and nearly two-thirds of fields have no irrigation, so must rely on rain. Without water at the right time, hundreds of millions of people would see their incomes crash. Food costs would rise. And as India is an emerging global giant in food production, exporting more rice than anyone, droughts could push up global prices.

Waiting for the monsoon is an annual ritual. In the early summer, weeks pass without rain. Temperatures and frustration rise. For villagers there is irritable inactivity, hours slumped on a charpoy under a tree, nights on a flat roof in hope of a breeze. Even birds and insects fall quiet, exhausted. Farmers yearn to start planting.

Cities are crowded and feel worse. The highest temperature ever measured in India, 50.6°C (123°F), was recorded in May 1956 in Alwar, Rajasthan. Delhi is delightfully leafy, but in these months a drab crust encases its trees, bushes and cars.

The rich retreat under air-conditioners ►

► or inside cooled cars. Middle classes can at least resort to fans. It is those who labour in temperatures well above 40°C who most risk heart attacks and heat-stroke.

Newspapers produce maps tracking the fronts of black clouds as if they were an approaching, welcome, army. It is natural to think of the cavalry galloping to the rescue from each coast—water evaporated up from the Indian Ocean and the Bay of Bengal—as the monsoon progresses inwards and northwards. Far inland, you read of countrymen drenched in cooling water, and anticipate your own respite.

That moment, usually late June for Delhi, is joyful. Cities erupt in delight as fat, dust-filled raindrops flop down. Novelists and poets revel in the instant: it is more deeply felt, for many, than any religious festival. It is also the sexiest time of year: a standard scene for Indian film-makers is a Bollywood starlet drenched in monsoon rain, set to celebratory music.

So imagine the anguish, the misery, when relief does not arrive. A seriously late monsoon, or a patchy one which releases water only in some places, an unpredictable or scanty one, all can be devastating. An uneven monsoon, which unloads its waters in a few, overwhelming torrents, followed by long patches of dryness, can destroy the fortunes of farmers and others in days. Mumbai in 2005 was all but washed away by intense downpours far stronger than anyone could remember (this year, on June 19th, the city had the heaviest rains since those 2005 floods). Immense cloudbursts in Uttarakhand killed over 6,000 people in 2013. Kashmir suffered a similar strike last year, with deaths counted in the hundreds.

In India the monsoon months of June to September provide three-quarters of total rainfall, an average of 89cm (35 inches). But in four out of ten years it proves erratic. Evidence from the past quarter-century suggests the Indian monsoon is growing less stable. Signs are tentative, and predicting monsoon behaviour is difficult. A lack of devices for recording and sharing data has hampered scientists' work.

The Intergovernmental Panel on Climate Change (IPCC), in its latest report on the scientific consensus on the Indian monsoon, says "future increase in precipitation extremes related to the monsoon is very likely" and estimates that, for South Asia, "normal monsoon years are likely to become less frequent in the future". It recalls "abrupt shifts" in the Indian monsoon in the past 1,000 years that gave rise to "prolonged and intense droughts".

Climate change should mean more rain for India. Over the past six decades its land mass has been warming. Orchards are being planted on higher slopes than before;



Himalayan glaciers are retreating. In theory, more heat means more evaporated water in the air, drawn in from the seas, and thus wetter, longer monsoons. Scientists talk of a 10% increase in downpours, good for recharging reservoirs, rivers and groundwater, though it won't necessarily arrive in the right time, places or intensity.

Yet India's air is also getting more polluted. More particles in the air probably explain why, despite the heating, rainfall has in fact been declining slightly overall, says

Evidence from the past quarter-century suggests the Indian monsoon is growing less stable

the IPCC. A Japanese study, which tries to predict long-term rainfall for southern India, suggests a rapid decline is possible. More particle-filled air could also mean monsoons dropping water in ever more intense, destructive bursts.

Other unknowns include doubts about the formation of deep depressions out at sea (crucial for the start of the monsoon), and questions of how declining snow cover in the Himalayas might affect the northern reach of the summer rains. It is safe to predict more unpredictability.

Stealing India's thunder

Talk of a failed monsoon does not imply the sudden end of an age-old phenomenon. But there are profound risks if it starts to go haywire. Heidi Cullen of Climate Central, an American research group, says a failing monsoon would have "huge" consequences: "The country lacks large reservoirs that can moderate a drought's impact on food supplies."

History offers some clues. The years 1876 and 1877 saw deadly hunger in southern India. In August 1877 *The Economist* said the area became "fatally exposed" to famines, as "the soil is poorer, barren tracts are more frequent, the land-tenure is economically unsound and practically oppressive". Showing early environmentalism, we also noted "the reckless destruction of the forests during past generations has made the rainfall more precarious." Later that year the monsoon in southern India in effect failed: nearly 30% of areas suffered severe drought, and another 30% moderate drought. It was one of the worst years ever recorded. Without irrigation, crops died. Human costs were immense. Tens of millions went hungry, were impoverished as food prices soared, displaced to relief camps or forced off their land. Several million people died.

Political consequences followed. During famines colonial rulers continued to export grain from starving India. Anger

about that became a spur to those who sought independence. In 1885 Allan Hume, a civil servant dismayed by the behaviour of his own government, formed the Indian National Congress, which eventually negotiated the British exit.

What if monsoons failed today? Indian farmers rarely have insurance and their savings are typically low. A single bad monsoon would be nasty, but two or three in a row could spread enormous disquiet and spur migration into cities. And if such upheaval were to happen in India, it would probably also affect Pakistan and Bangladesh (together with another 350m people or so) that depend on the same monsoon. Potentially a fifth of the world's population would be directly affected.

But unlike the India of 1877, the country today has structures to mitigate the effects of erratic or failed monsoons, at least for a while. State-run granaries are wasteful and often a source of corruption, but the point of holding large stocks is to release rations when supplies grow tight. Democratic rulers are quick to stop exporting crops in times of hunger, though that can worsen problems in other countries. As the economist Amartya Sen points out, democracies do not see famines.

Better technology, improved weather forecasting and more capacity for assessing climate data mean warnings of bad weather are improving. In the long run farmers can adapt. India could invest more in reservoirs, small-scale water harvesting, drip irrigation and crops (including genetically modified ones) better able to withstand droughts or grow in brackish water. And India must one day get to grips with terrible air pollution. Reducing that could yet mean more rain in the monsoon. ■

WHAT IF

malaria was eradicated?

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627,000 deaths



77% of those are children under five

207 m new cases

\$12 bn lost in Africa's productivity

Sources: Gates Foundation; NetsForLife

HISTORY

Post-war China, alternatively Chiang's China

What if Mao Zedong's Communist Party had lost the Chinese civil war to Chiang Kai-shek's Nationalist Party?

WHEN the second world war ended, the 3.7m-strong army of China's leader, Generalissimo Chiang Kai-shek, was badly weakened by its fight with the Japanese and a Communist insurgency. But it still had the upper hand against the Communists: superior by far in numbers and equipment. As Soviet forces withdrew from Manchuria in the north-east, which they had taken from the Japanese, Chiang's forces surged forward to regain the territory. Chinese Communists in the area, who had hitherto been backed by the Russians, were shattered by the onslaught.

But in 1946 the Americans, anxious to prevent an all-out civil war between Chiang and the Communists' leader, Mao Zedong, persuaded Chiang to stop fighting. It was a moment that may have changed history: the few weeks' hiatus enabled Mao to replenish his forces with Soviet aid. When the truce broke down, Chiang lost Manchuria and eventually the civil war. Americans—particularly right-wingers—kicked themselves about it for many years afterwards. What if Mao's victory had been avoided?

China's spectacular rise in the past three decades has helped the Communists parry suggestions that the country would have been better off without Mao. But it may well have been. Chiang's army fled to the island of Taiwan, which prospered. Mao's China suffered economic ruin before Deng Xiaoping eventually began to turn its fortunes around in the late 1970s. Had China's economy grown at the same pace as Taiwan's since 1950, its GDP would have been 42% bigger by 2010 than it actually was. In other words, it might have achieved its growth miracle plus another one about the size of France's economy.

Chiang would have remained in charge of a corrupt, autocratic government with a brutal secret police. His Nationalist Party, the Kuomintang (KMT), would have faced discontent among the rural poor who formed the bulwark of Mao's forces. However, Chiang's brand of authoritarianism may have proved a softer one than Mao's. There would have been no killings of millions of landlords purely on ideological grounds, and no Great Leap Forward in the late 1950s, which caused a famine that killed tens of millions. Unlike Mao, he would not have wiped out private enterprise and forced peasants to surrender their land to "People's Communes", a policy that exacerbated the famine and that—though long since officially repudiated—still plagues the development of China's countryside. Neither would Chiang have plunged China into the chaos of the Cultural Revolution of the 1960s and 70s, during which millions more were killed or persecuted.

Under Chiang, China would not have had to wait 30 years before becoming part of the global economy. To be sure, Chiang would have tried to protect China's markets from foreign competition, just as Taiwan and other Asian economies did during their periods of rapid take-off. But he would have been quicker to relax such restrictions. Taiwan was ready for membership of the World Trade Organisation long before China joined in 2001.

Asia reimagined

The strategic map of Asia would have been very different had Chiang won the civil war. He would not have supported North Korea's invasion of the South in 1950. Without China's backing, Kim Il Sung would probably not have got Stalin's support for such a venture either. Chiang would not have had a Taiwan problem: Mao's rebels never had a foothold there.

But Chiang was an ardent nationalist. His relationship with Japan would have been fraught. Millions of Chinese had been killed



during Japan's occupation of China, with the KMT rather than Mao's forces suffering by far the worst casualties. Animosities between China and Japan, which Mao did not appear eager to play up, might have bedevilled east Asian security long before they did emerge in the 1990s as a source of regional tension. Chiang's domination of Taiwan as well as the mainland would have given him control over the shipping lanes on which the economy of Japan depends. America's restraining hand in the region may still have been needed.

The cold war might have turned hotter too. Chiang did not accept the Soviet Union's control of Mongolia. Under Mao, brief battles broke out on the Chinese-Soviet border in the 1960s. They might have turned bigger and bloodier under Chiang. The Chinese public, indoctrinated by the KMT into a belief that Mongolia was China's, might have clamoured for their government to assert the claim more forcefully once the Soviet threat was gone.

But China by then may have become a more politically liberal country. Moves towards democracy would have been slowed by fears of secessionism, especially in Tibet and other ethnic-minority regions (many Taiwanese would have been chafing at the KMT's rule; they had begun to even before Chiang fled to the island). But a middle class would have grown far sooner than it has under the Communists.

Despite the autocratic rule of Chiang's KMT, China would have remained an ally of America. Asia would therefore not be riven as it is today by a struggle for supremacy between America and China. Perhaps even Japan would be learning to live with its powerful, rich neighbour.

Much of the tension that now plagues Asia relates to the nature of China's Communist Party. Neighbouring countries worry about the way the party behaves: secretly, high-handedly and sometimes (at home at any rate) brutally. But all of them fear what might happen were the party now to follow the KMT's path and liberalise. The KMT was voted out of power in Taiwan in 2000, before returning in 2008. It is likely to be voted out again next year. Few in Asia believe that the Communist Party could ever accept the vagaries of democratic politics. Its eventual demise might well involve bloody tumult; a return, even, to the chaos of the 1940s. The rest of Asia would prefer the devil it knows. ■

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Turkey, America and the Kurds

Awkward allies

ANKARA

Turkey may have joined the American-led coalition against Islamic State, but there are plenty of strings attached

WHEN news broke of a deal between Turkey and America over Syria last weekend, it was welcomed as a game-changer. But it has speedily become clear that the agreement is riddled with ambiguity and divergent agendas. That should not come as a surprise: the idea that two countries with such a fraught recent relationship were burying their differences to defeat Islamic State (Is) was always unlikely.

The apparent change of heart in Ankara came after the murder of 32 young activists at a Kurdish cultural centre in the border town of Suruc on July 20th. Having long turned a blind eye to Is (and other Sunni jihadist groups fighting Bashar Assad's regime in Syria), the Turkish government seemed to have been shocked out of its complacency about the menace it poses.

In fact, Turkey had been edging towards taking a more active role in the coalition against Is for several weeks, which may well have been the trigger for the suicide attack. The reasons included growing alarm about the strengthening relationship between the Americans and the Kurds; active recruiting by Is inside Turkey's big cities; and worry over the damage being done to Turkey's reputation by its tolerance of Is. In June Barack Obama publicly criticised Turkey for failing to stem the flow of foreign fighters and arms across its border into Syria.

Although the details of the deal remain sketchy, Turkey has agreed to two long-standing demands from Washington. The first was to allow American warplanes to

fly strike missions against Is positions from the big NATO airbase at Incirlik. With far less flying time to Is-held territory than from bases in the Gulf, aircraft can spend more time over their targets, respond more rapidly to real-time information from surveillance drones and maintain a higher tempo of operation. The second demand was that Turkish F-16 bombers would now join the coalition effort against Is.

In return, the Americans agreed to help establish a 65-mile Is-free zone along a western section of the Turkish-Syrian border, running from north of Aleppo to the Euphrates. That helped Ankara save face, but it is not the no-fly zone that the Turks have been demanding since the civil war in Syria erupted. That was intended to create a haven from the forces of Bashar Assad, particularly his aircraft, whereas the aim of this zone is merely to exclude Is.

In briefings earlier this week, the Turks expressed the hope that the zone would eventually provide a refuge for some of the 1.8m Syrian refugees in Turkey. Before that, though, the main aim of pushing Is out of the area is to sever the access-route to Turkey through which it funnels foreign recruits. As quickly as air strikes have killed the militants (about 1,000 are thought to be dying every month) replacements have filled their shoes. Having lost one crossing in the east at Tel Abyad to the Kurds in June, Is relies on another one, further west, Jarabulus, which is in the zone (see map on next page).

The Turks hope for other benefits for

Also in this section

- 43 Bashar Assad's shrinking kingdom
- 44 Bulldozing West Bank settlements
- 45 Obama to Africa: buck up!
- 45 Nigeria's forgotten prisoners

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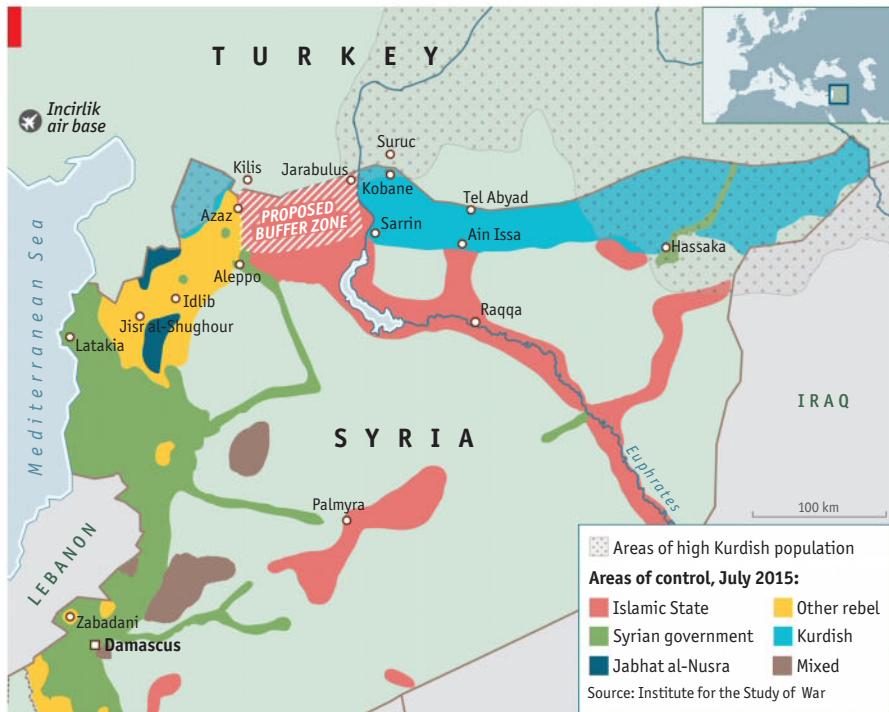
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themselves. As well as making this an Is-free zone, they would like to make it a Syrian Kurd-free zone as well, thwarting the Kurds' plan to seize the contiguous territory they need to carve out a self-governing entity on Turkey's frontier akin to the more or less autonomous Kurdistan in northern Iraq. That is a prospect that Turkey's president, Recep Tayyip Erdogan (pictured, left) still fears far more than Is's potential for mayhem. Although Turkey's declared Syria strategy has been all about getting rid of Mr Assad, its support for the jihadists has always been at least as much about keeping the Kurds in check.

The real target

That fact can be seen from the targets chosen by the Turkish air force in the past few days. It has carried out some limited strikes against Is in north-west Syria, but it has shown more zeal in pounding positions held by the supposedly separatist Kurdish Worker's Party (PKK) in northern Iraq, ending a two-year ceasefire against one of Is's fiercer foes. The Turks are not bombing Is in Syria's Euphrates valley, where it is fighting Syrian Kurd YPG militias. (The YPG is the armed wing of Syria's Kurdish Democratic Union, an offshoot of the PKK.) Yet American planes are flying in support of YPG units fighting Is near Tel Abyad.

The Americans, who worked closely with the YPG during last year's bitter defence of Kobane, rate the Kurdish militia as their most reliable ally against Is on the ground in Syria and intend to increase co-operation. The Turks say that although they regard the PKK as a terrorist organisation, just like Is, they have no plans to go after the YPG. However, there are reports (denied in Ankara) of Turkish tanks shelling YPG positions this week close to Jarabulus. A proven Turkish attack against the YPG would cross a red line, warn American officials. Yet for all its heroics in areas it seeks to control, the YPG is not going to take ➤



▶ the fight to is's stronghold in Raqqa. For that, the coalition almost certainly needs to include Sunni Arabs.

Other differences will be no less tricky to resolve. One is that the Turks and Americans do not agree on which rebel groups they will work with in expelling is from the zone. That is vital, because neither country has any intention of putting boots on the ground. The Turks have long been close to Ahrar al-Sham, a well-organised Islamist group that has received arms from the country's intelligence agency and Qatar. The Americans may just about be able to stomach Ahrar and its offshoots—it is at least authentically Syrian and has no designs on the West, though its informal links to the Syrian affiliate of al-Qaeda are deeply problematic.

Another of Turkey's aims is to bring American aircraft into direct confrontation with Mr Assad's wan but still effective (at least for terrorising civilians) air force. That is something the Americans wish to avoid, not wanting to mount a major operation to take out Syria's air-defence system. Operating across the swathes of Syria the regime no longer controls has not been difficult. But the south-west corner of the zone covers still-contested ground.

Mr Erdogan also hopes for domestic political gains from his deal with the Americans. The PKK has provided Mr Erdogan with the excuse he needed to send his bombers after it by killing police officers and soldiers. The group alleges that the police were complicit in the Suruc atrocity. If the PKK responds with further outrages, it will play into the president's hands. Renewed PKK terrorism will tarnish the HDP, a mainly Kurdish political party that de-

nied Mr Erdogan's AK party a majority in the election in June, and thus the power to change the constitution to create an executive presidency. Mr Erdogan could hold a snap election in a bid to get the right result.

Realising that its previous strategy had failed, Turkey has now joined the coalition against is as an active participant. But even the concept of a very limited anti-is zone is half-baked. Nobody has explained when and how it will be enforced or governed. The anti-is coalition has long suffered from conflicting aims and weak commitment. That is not about to change. ■

Syria

Inching towards the end

CAIRO

The pressure slowly increases on Bashar Assad

AFTER four and a half years that have ravaged the country and sucked in ever more combatants—the latest being Turkey—Syria's ghastly civil war seems as intractable as ever. But like the twisting narrative of an endless television serial, its multiple subplots do give hints of inching to a conclusion. Not, most likely, in this current hot and bloody summer season, but perhaps in the not-too-distant future.

Until early this year two of Syria's players, the regime of Bashar Assad and Islamic State (is), were in the ascendant. The tide against both has since turned. Recent analysis by Jane's, a defence analyst, suggests

that after a series of losses to both is and other, rival rebel groups, the area fully controlled by government forces has shrunk since January by some 16%, to a mere 30,000 square kilometres (11,600 square miles), or barely a sixth of Syria's territory.

And this was before a recent offensive by a coalition of mostly Islamist militias calling itself Jaish al-Fatah, which on July 28th captured the government's last salient on the route linking Syria's second city, Aleppo, to the coast. The advance, which follows the fall in March of a provincial capital, Idlib, and of another big town, Jisr al-Shughour, in April, further consolidates rebel control of Idlib province. Jaish al-Fatah now threatens both the surrounding rich agricultural region and the coastal mountain range that is the heartland of Mr Assad's own Alawite sect.

Earlier this year, Mr Assad's forces lost the desert city of Palmyra to is, as well as their last toeholds in the far south, along the border with Jordan, to other rebel groups. Far to the east a government enclave around the town of Hassaka has held out against is attacks, chiefly due to help from autonomous Kurdish and Christian militias. Whereas last year government forces appeared poised to encircle rebels in Aleppo, at present it is Mr Assad's men, who hold half the city but rely on long, exposed supply lines, that look vulnerable on this far more vital front.

Analysts cite several reasons for the government's setbacks. Foreign backers of Sunni rebel groups, including Saudi Arabia and Turkey, have increased the volume and quality of military supplies, helping redress a stark imbalance in firepower. Mr Assad's own forces, depleted by attrition, desertion and a leakage from the formal army into informal pro-government local militias, no longer have the manpower and discipline to sustain multiple fronts. They rely increasingly on foreign Shia "volunteers", including Iranian-trained Iraqi and Afghan fighters, and Lebanon's Hezbollah. The latter has been bogged down in a long siege of the town of Zabadani, a rebel enclave on the border with Lebanon.

The government's retrenchment may be partially deliberate. "He resisted admitting that he could not control all Syria's corners, but realised that is untenable," says Emile Hokayem of the International Institute for Strategic Studies. "We must define the important regions that the armed forces hold onto so it doesn't allow the collapse of the rest," he said. Having recently granted an amnesty to deserters in an effort to drum up recruits, Mr Assad also hinted that the government may order a general mobilisation, allowing it to commandeer vehicles, machinery and other civilian property. ■



Good while it lasts

▶ Despite the fact that Turkey has long argued for a stronger international effort against Mr Assad, its formal entry into the fray is unlikely to tip the equation decisively against Syria's regime. Iran, soon to be flush with funds unblocked by the lifting of sanctions, is for now at least still committed to propping up the Syrian leader. Even with better weapons and stronger momentum, Sunni rebels lack both the manpower and unity of command needed for a push towards Damascus, the Syrian capital. Some of their component groups, such as Jabhat al-Nusra, which declares allegiance to al-Qaeda, remain anathema to Western powers who might otherwise be keener to accelerate Mr Assad's fall.

Despite its success at Palmyra, Is's "caliphate" is an unhappy place, bludgeoned from the air by coalition strikes and shrinking in size. Kurdish forces have relentlessly expanded since breaking the jihadists' siege of Kobane last winter, most recently seizing the town of Sarrin on the Euphrates River. While few expect any sudden collapse, many analysts believe that, barring some error by its enemies that would win it a flood of new allies, Is may have already peaked in size and strength.

If hopes for a speedy resolution on the ground in Syria are dim, some see chinks of light on the diplomatic front, where the nuclear deal over Iran has focused minds on resolving other regional issues. When a large group of foreign ministers, including those of America and Russia, meet in Qatar on August 3rd, ostensibly to reassure Gulf Arabs about the nuclear agreement, Syria is sure to be on the agenda. ■

West Bank settlements

Bulldozers at the ready

SUSIYA

The politics of planning and demolition in Area C

THERE was a kind of symmetry last week in two West Bank towns where residents held vigils awaiting the arrival of Israeli bulldozers. One was Beit El, a Jewish settlement near the West Bank's capital, Ramallah, where two apartment buildings were to be razed. The other was the Palestinian village of Susiya, a hardscrabble cluster of tents and shacks in the hills outside Hebron, scheduled for demolition since mid-July. Insignificant as they seem, the demolition orders put Binyamin Netanyahu, Israel's prime minister, on a collision course with his allies—both inside the government and abroad.

At Beit El, residents have faced off repeatedly with Israeli police in recent weeks. The High Court ruled that two buildings there were built illegally by settlers on private Palestinian land, and ordered them demolished by July 30th. That ruling created much friction between Mr Netanyahu and the settler movement, which played a big part in his re-election back in March. He promised a wave of new construction in return. Four months later, his supporters feel duped; they accuse the prime minister of placing a quiet freeze on building in the West Bank. Pro-settler members of the coalition rushed to Beit El in solidarity; and turned to outrage when the demolition crew moved in on July 29th to destroy the two buildings.

With a majority of just one seat, the prime minister can ill afford to offend his right-wing allies, though he does at least have the law on his side. He faces another battle over the second of the disputed building-sites; this time with the West, at a time when tension over the nuclear deal

with Iran is already high.

Susiya is built in "Area C", a designation that is applied to the roughly two-thirds of the West Bank that remains under full Israeli control. Palestinians cannot build there without a permit from the army. Applications are costly, ranging into the thousands of dollars, with an approval rate of just 5%. So most of the 200,000 Palestinians who build there do so illegally.

Israel demolishes some 200 homes and agricultural buildings in Area C each year. Removing an entire village is less common—though not in the case of Susiya, which has been razed before. Residents were first evicted in 1986, when Israel declared their original village to be an archaeological site. Many became homeless again after two further waves of demolitions, in 2001 and 2011, one of which followed the murder of a Jewish settler nearby. The town's latest incarnation has been under threat for months, since Israel's high court refused to bar the demolition orders.

But the tiny village of just 55 families has become an international cause. A group of EU diplomats visited it in June. America's State Department said it was "closely following" developments here, and that any demolition "would be harmful and provocative". Mr Netanyahu has said little about the case, but under Western pressure the army seems to have made a tactical retreat: it recently concluded, based on Ottoman-era deeds, that Susiya was built on privately owned Palestinian land, according to a document leaked at the height of the controversy. The residents, in other words, cannot be expelled, though their homes can be demolished. ■



Facts on the ground



South Sudan and America

Get your act together

NAIROBI

Barack Obama urges African leaders to stop the continent's worst war

ON HIS recent foray into east Africa, Barack Obama did not pull his punches. While applauding the “extraordinary progress” of Africa in general, he told its leaders to cut out “the cancer of corruption”. Among other things, he urged his Kenyan cousins to treat their women better. In Ethiopia he called for more political freedom to bolster the country’s economic development. Casting his eye across the whole continent, he chastised leaders who sought to flout their term limits. And in his most direct intervention during the five-day safari he urged an end to the civil war in South Sudan, calling for targeted sanctions if the protagonists fail to take serious steps towards peace.

The situation there is certainly as dire as ever. New depths of brutality have been plumbed during an offensive by South Sudanese government troops in oil-rich Unity state, where children were tied up in huts and burned alive, boys were castrated and women and girls publicly gang-raped. Civilians were shot at, hunted down and run over by tanks. Since civil war erupted in December 2013, tens of thousands of people have been killed. More than 2m of the country’s 12m people have fled their homes. More than a third face famine and 166,000-plus have sought safety in UN bases ringed with razor wire and defended by peacekeepers.

The Intergovernmental Authority on Development (IGAD), an eight-country regional trading bloc that has been the main peacemaking forum, has set numerous deadlines, all of which have been missed or ignored. At a press conference in Ethiopia, which borders on South Sudan, Mr Obama weighed in behind IGAD. “If we don’t see a breakthrough by August 17th, then we’re going to have to consider what other tools we have to apply greater pres-

Nigeria

Justice forgotten

LAGOS

The shocking number of pre-trial prisoners

BEHIND the bolted doors of Kirikiri Maximum Security Prison an old chalkboard hangs high above the wardens’ offices, keeping count of the inmates inside. It shows that just over 1,000 men live in the jail meant for Lagos’ nastier convicts. Of those, 639 are not convicts at all; they are awaiting trial.

Among them is Kayode Yukubu, Kirikiri’s longest serving pre-trial inmate. He was arrested in a raid in 2003 and charged with robbery. Yet after 12 years in the clink, no court date has been set. It is possible his case file has been lost. “I can do nothing,” he says, sitting in the jail’s surprisingly spruce chapel.

This is not a uniquely Nigerian problem: roughly 3m people around the world are locked away awaiting trial. Yet the overuse of pre-trial detention has reached crushing proportions in Africa’s most populous country. Fewer than 18,000 of Nigeria’s 56,785 inmates have actually been sentenced, the prison service reported last year. Many detainees will exceed the maximum prison period for their crime before they even see the inside of a courtroom.

This is mostly because policemen are fond of rounding up men like Mr Yukubu in raids—often for petty crimes like playing football outside during monthly

“environmental sanitation” days, when free movement is prohibited. Ariyo Popoola, a pastor who looks after the inmates, sees dozens of men dumped in jail each Monday after being swept up over the weekend. Because the rich can afford bribes, bail and lawyers, those detained are almost exclusively poor.

Once inside, detainees face long waits at the hands of overburdened courts. Adjournments are common because police fail to provide evidence, mislay case files, or simply fail to bring prisoners to court at the right time. As trials are delayed, evidence degrades and witnesses disappear; jails become increasingly congested. In Kirikiri, pre-trial prisoners are crammed into rooms of 50. They sleep on the floor.

There are solutions. Police should be held accountable for illegal arrests. Improved legal aid would help poor defendants make the case for pre-trial release. A new criminal-justice law requires magistrates to visit prisons and police stations to check for illegal detention, though Nigeria’s problem is not its laws, but their enforcement. For those stuck in the grindingly slow system, things look bleak. “So many lawyers come and go but don’t do anything,” Mr Yukubu says. “You give up hope.”



The oublie

sure on both parties,” he said. This may include an arms embargo and travel bans and asset freezes hitting, among others, South Sudan’s two warring leaders: President Salva Kiir and his former deputy, Riek Machar, now his bitter foe.

The latest draft agreement proposes a transitional government lasting 30 months to be followed by elections. Government troops and rebels would be brought back

together in a single army. The capital, Juba, would be demilitarised. A truth-and-reconciliation committee would be set up, along with a special court to judge charges of genocide, crimes against humanity and war crimes. Mr Kiir would stay on as president with Mr Machar reinstated as his deputy. In other words, a return to the pre-war status quo. Optimists, despite Mr Obama’s eloquence, are understandably few. ■



Russia and the world

Making waves, if not ruling them

MOSCOW

With a mixture of bluff and opportunism, Vladimir Putin is talking up his country's diplomatic and strategic power

MORE than a year after America and its allies set out to punish the Kremlin for backing rebels in Ukraine and annexing Crimea, Russia is finding new friends and dealing with the West from a position of growing strength. At any rate, that is the message that Vladimir Putin has been delivering to his own people and anybody else who will listen.

In his latest flexing of muscles, the president set out a naval doctrine on July 26th which aspires to challenge the Atlantic alliance in all its areas of operation, in reply to NATO's "unacceptable" plans to move some forces close to Russia and expand its global reach. He wants an ocean-going navy, especially active in the Arctic and the Atlantic, to replace a fleet whose ageing ships mostly hug the coast.

This capped a month of diplomatic showmanship, in which the Russian city of Ufa, on the boundary between Europe and Asia, hosted summits of two organisations which aspire to challenge America's global leadership. One is a mainly economic club known as the BRICS (including Brazil, India, China and South Africa); the other is the Shanghai Co-operation Organisation (SCO), focused on defence, which includes China and the ex-Soviet republics of Central Asia and has just gathered in both India and Pakistan.

As Russia's state media told the story, the BRICS meeting was a new step in the construction of a counter-weight to the

Western financial system; it established a \$100 billion currency reserve fund which would emulate the IMF's role as a stabiliser of monetary crises, and confirmed plans for a \$100 billion development bank. The clear message was that, despite being excluded from Western capital markets, Russia has alternative economic partners.

In the tart words of Andrei Klimov, deputy head of the Federation Council's foreign relations committee: "When a person turns his back on you, you have two choices—you can run after that person, or you can start to talk to other people."

Meanwhile the sealing on July 14th of a nuclear deal between Iran and six world

Also in this section

47 Russia's awful prisons

48 Burying Hitler's 1936 Games

48 Rome's erratic mayor

49 Charlemagne: The snail loses pace

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powers, led by America but including Russia, allowed the Kremlin to argue that the West still needs it. When Barack Obama thanked Mr Putin for his help with the accord, this seemed to boost the hope of some Russian officials that the West might give ground over Ukraine, or elsewhere in eastern Europe, because it craves Russian help in places like Iran or Syria.

In a quieter display of soft power, Mr Putin's advocacy of "traditional values" got a fillip on July 3rd when, at the UN Human Rights Council, a motion lauding the conventional family was carried by a clear majority, led by Russia and Islamic states, against opposition from America and western Europe, which wanted a mention of new realities like gay partnerships.

Alexei Pushkov, who chairs the Duma's foreign-affairs committee, sees in the American Supreme Court ruling establishing gay marriage one more chance for Russian-led pushback. America will try and fail to propagate such unions, he says.

But behind all the self-confident talk, over economics, defence or values, how well is Russia resisting Western pressure? In the cold light of day, Mr Putin's rhetoric looks like a mixture of vain boasts and calculated realism (see book review page 73).

Above all, China seems unlikely to meet Russia's hopes, either as a provider of capital or as a security partner. Its economy towers over Russia's and it does not share Mr Putin's keenness to pick fights with the West. According to Angela Stent, a professor at America's Georgetown University, most of the economic benefits from Sino-Russian co-operation are still far off. Talks on a pipeline taking Russian gas to China foundered this week. In China plans for an Asian Infrastructure Investment Bank, a development body that excludes America, takes priority over any BRICS project.

Nor is the SCO about to become a close- ►

We know what we don't like

Percentage of Russian respondents with favourable views towards:



► knit club comparable to NATO. Although China buys Russian weapons, the countries have their differences over security; for example, China resents Russia's enduring ties with Vietnam. And Russia's expansionism in Ukraine has made other neighbours, like Kazakhstan, more wary.

The Iran accord is also a mixed blessing for Russia. As Fyodor Lukyanov, editor of the journal *Russia in Global Affairs*, points out, Russia resisted economic sanctions against Iran (while going along with them in deference to its Western partners) so it should logically gain from their removal. But the deal could hurt Russia by lowering world oil prices and bringing new gas supplies to Europe; and under the letter of the deal, Russia will not be able to sell arms to Iran, as it badly wants to do, for at least five years. The real prize for Russia could come from unhappiness over the deal in Saudi Arabia, which is annoyed with America and looking for fresh financial partners.

Of all Russia's initiatives, it is the naval expansion, part of a big drive to rearm that seems immune to budget cuts, that will be studied most in Western capitals. Russian yards have lost the capacity to build big surface ships, especially without access to parts from Ukraine. Its sole aircraft carrier is 30 years old and hardly seaworthy. It will be lucky if, as proposed, a new one can be launched towards 2030.

But Russia has always been able to make stealthy, deadly submarines, and it seems to have solved some problems with new types of conventional and nuclear-capable subs. Three of the latest sort of nuclear-armed boat are now plunging the ocean's depths; seven more are planned. Although America's navy, which soon aims to exceed 300 large ships, dwarfs all others, Russia's naval effort is serious. The new doctrine implies eventually being able to confront NATO in every ocean where Western navies sail, albeit in ways short of war, says Peter Roberts, a research fellow at the Royal United Services Institute, a think-tank in London.

With its economy crimped—more than it admits—by Western sanctions, Russia's best hope of fulfilling such a plan lies in persuading citizens to tighten their belts for the sake of a nation that supposedly faces a perpetual American peril. For Anna Glazova, of the Kremlin-linked Institute of Strategic Research, there is ample evidence of such a threat: proof positive is provided by the fact that Mr Obama once mentioned Russian misbehaviour, the Ebola virus and Islamic State terror all in the same speech.

For anyone who recalls Soviet times, this mix of defensiveness and defiance feels familiar. And in case proof were needed of Russia's determination to say *nyet*, it vetoed, on July 29th, a UN security council resolution to create a tribunal to probe last year's downing of a Malaysian airliner over rebel territory in Ukraine. ■



Russia's prisons

Putin v Punk Pussy

MOSCOW

A brave, brassy singer highlights the plight of Russia's other inmates

THREE years ago Nadia Tolokonnikova donned a balaclava and, with two partners in the Pussy Riot band, cavorted near the altar of Moscow's biggest cathedral, screeching out a "punk prayer" in protest against the imminent re-election of Vladimir Putin as president. For her pains she was sentenced to two years in a penal colony. Though still an ardent opponent of Russia's leader, Ms Tolokonnikova has narrowed the focus of her dissent to the conditions of prisoners in the country's far-flung archipelago of jails. It is a worthy cause.

At the last count there were 657,000 Russians behind bars, one of the world's highest ratios of prisoners to population. "Our current, vile law-enforcement system", she says, "still grinds people to a pulp and spits them out into their graves." The frequency of deaths in custody amounts to a "Russian Ebola". Tuberculosis is the commonest killer, she says, followed by HIV/AIDS, which may affect 75,000 prisoners. The offences for which Russians are most often imprisoned, she says, concern drugs.

When she was first incarcerated in Penal Colony 14 in Mordovia, a Stalin-era camp about 500km (310 miles) south-east of Moscow, prisoners routinely had to work for 16 hours a day. Ms Tolokonnikova shared a dormitory and three functioning (and seatless) toilets with 100-150 women.

They were each allowed one shower a week. The food was barely edible. Corrupt prison administrators, she says, would steal part of the money allocated for food. "You might get a pig's ear or tail, drowning in cooking oil."

There was no television and no radio apart from the camp tannoy, and no time to read. Family visits were restricted to one every two months. Few prisoners could afford telephone calls; most women had one a month. Bullying, especially by old lags favoured by the warders as discipline-enforcers, was routine.

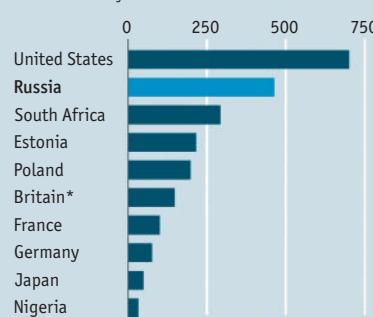
Thanks in part to a hunger strike and the publicity generated by Ms Tolokonnikova's imprisonment, the regime in Penal Colony 14 improved a bit during her time. The workload was shortened generally to eight hours a day. But conditions in Russian prisons are still, says the singer, appalling.

These days she has an unlikely supporter in Mikhail Khodorkovsky, once reckoned to be Russia's richest man thanks to being the main owner of Yukos, then the country's biggest oil company. A political foe of Mr Putin, he was put in prison in 2003 for alleged fraud after what was widely considered to have been a politically motivated trial, until freed by the president in December 2013; Ms Tolokonnikova was released around the same time. Now resident in Switzerland, Mr Khodorkovsky helps finance an outfit she founded called *Zona Prava*, which promotes the rights of prisoners and their families. Ms Tolokonnikova also calls for fairer trials, noting that in magistrates' courts fewer than 1% of defendants are acquitted.

Mr Khodorkovsky is paying for the creation of a map to locate all the places of detention, said to number around 1,000, scattered across Russia. He was imprisoned for much of his time behind bars near Chita, more than 7,000km east of Moscow. Ms Tolokonnikova spent a month being shuttled around the prison system (unbeknown to her family and child, who was four when she was sentenced) before ending up in Krasnoyarsk, 3,400km to the east. ►

A world behind bars

Incarceration rate per 100,000 population
Latest available year



Sources: International Centre for Prison Studies; US Bureau of Justice

*England and Wales

Judith Pallot, an expert on Russian prisons at Oxford University, says there have been marginal improvements since Russia ratified the European Convention on Human Rights in 1998, such as ensuring more space for prisoners. But severe structural problems remain, mainly due to the "Gulag inheritance" and its brutal subculture affecting prisoners and jailers alike. "Russian prison colonies are supremely dangerous and unhealthy places," says Ms Pallot. "What is needed is root-and-branch restructuring of the prison estate, management practices, the introduction of serious alternatives to incarceration and a fair, uncorrupt criminal justice system, from the police all the way through to prison governors, officers and guards."



The Maccabi Games

A sweet Jewish moment

BERLIN

Returning, happily, to Hitler's stadium

FOR Rilli Willow, as for many others in Berlin this week, a "circle is closing". Her great-aunt Dora was once a Jewish opera singer in Berlin. Deported at 33 to Auschwitz, Dora was forced to sing for its guards until she perished. Now Rilli, 32 and born in Israel, is also a singer and lives in Berlin, married to a German. And on July 28th she proudly sang the German anthem at the opening of the 14th Maccabi Games, Europe's largest Jewish sporting event, which for the first time is taking place in Germany. Eleven motorcyclists (pictured) rode to the contest from Israel, taking a detour through Poland to stop by the Auschwitz death camp.

The Maccabi Games are a sort of Zionist mini-Olympics (though Gentiles can compete). The movement began in the late Ottoman empire, where Jews who were barred from sports clubs began their own. In the 1920s a Maccabi youth movement was born in Europe.

The rise of Hitler seemed to quash it.

Meeting Ms Tolokonnikova in Moscow today, it is hard to imagine her as a broken and bedraggled prisoner. Sipping red wine in a fashionable coffee bar not far from the Kremlin, dressed in hotpants and a red-checkered blouse, she is sprightly and chic, her dyed blonde hair with a blue streak tucked neatly under a yellow alice band.

Though dedicated to ending Mr Putin's reign and vociferous in her condemnation of his policy towards Ukraine, she can hardly be labelled a Western stooge. Indeed, she is happy to be called a punk and even an anarchist. All the same, she is plainly conscious that the publicity she gets in the West may well be her best protection. "I am a punk who reads *The Economist*," she says. ■

MAYORS need watching, as any national leader knows. Some are terrible liabilities, like the crack-loving Marion Barry who ran Washington, DC, until 1999. Others, like Jacques Chirac, who managed Paris until 1995, and Boris Johnson, looking after London since 2008, have wider political ambitions.

ROME

The boss of a chaotic city makes a bid to redeem himself

In two years as mayor of Rome, Ignazio Marino has displayed no vices, but his ill-starred administration has been an embarrassment. A great city has fallen into decay, its parks choked with litter. And this summer travellers on the dire underground railway often waited more than half an hour for trains with little or no air conditioning. Strikes have snarled up the buses.

Whatever their faults, mayors are hard to remove. For weeks Mr Marino's ultimate boss, the head of the centre-left Democratic Party and prime minister, Matteo Renzi, havered; he had no power to fire a mayor, but hinted he should "go home".

On July 28th Mr Marino reshuffled his team and pledged a new start. It was his second decisive move in a few days. A week earlier, he vowed to fire his urban transport bosses and open the system to private funds. This drew quick, if conditional, backing from the prime minister: "If he manages to get concrete results...he won't lack support from the government."

A surgeon who has worked in America, Mr Marino is not a political novice; he entered parliament in 2006 and three years later ran for the party leadership. On the other hand, his roots in Genoa make him an alien in the eyes of cliquey Romans.

Distance from Rome's networks of patronage may yet be a strength; and not even his sternest foes doubt his honesty. Though he and Mr Renzi have different political backgrounds, the mayor is fighting the sort of cronyism which the prime minister also resents. Earlier this month, Mr Marino clamped down on unauthorised yet seemingly untouchable snack vendors.

Some city woes can be blamed on his predecessors, on Italy's 15 years of stagnation, and on governments that cut transfers to local administrations. The chaos in park cleaning and rubbish collection to some extent results from the dismantling by police and prosecutors last December of a Mafia-like organisation that had woven a thick fabric of corrupt associations with local officials. But having won his boss's backing at last, the mayor still has a struggle to prove he deserves it. ■

A bitter foretaste of what was to follow came in 1936, when Hitler staged the Olympic Games in a purpose-built and grandiose stadium in Berlin. Many of the Jewish athletes who turned up were sent away hours before their events.

Today, 79 years after Hitler's Games, 70 since the holocaust and 50 since Germany and Israel began diplomatic relations, the world looks different again. Some 20,000 Israelis live in Berlin and 240,000 Jews call Germany home again, most of them immigrants from the former Soviet Union. Despite some recent outbreaks of anti-Semitism, mainly involving Muslims, German Jews today feel safe and accepted, says Alon Meyer, president of Maccabi Germany.

So it seems fitting that 2,300 athletes from 38 countries will compete in 19 sports in the very stadium where Hitler preened and strutted. Joyous or sombre, Jewish or German, many share the feeling of a circle being completed.

Charlemagne | The snail loses pace

A political movement that thrived in post-war Europe needs fresh impetus



GÜNTER GRASS, an enthusiast for the centre-left ideas of Willy Brandt, chronicled the slow post-war rise of social democracy in an elegant memoir called "From the Diary of a Snail". The creature struck the writer as an apt metaphor for that school of thought. It was unhurried but purposeful: a "politics of small progressions", defying setbacks and promising moderation. It avoided both the reactionary tendencies of many conservative movements, and the revolutionary posturing of the far left.

But the snail is stuck. In recent years, governments of the centre-right have eclipsed their rivals in elections across Europe. Strikingly, parties of the centre-left have failed to capitalise on the most profound crisis in capitalism brought by the financial crash of 2007-08. Far from seizing the opportunity to win an argument for greater state regulation and a less intense embrace of free-markets, the left has been swept out of power in many places and found it hard to return.

In Germany Angela Merkel, the Christian Democratic chancellor, has been in office since 2005. In Britain a Tory-led government has held power since 2010, and the twice-defeated Labour Party is preoccupied by infighting about its future, with the most dynamic candidate for its leadership coming from the far left. In France the Socialist president, François Hollande, has dismal ratings and little chance of re-election.

Even Scandinavia, a byword for the moderate left in the 1970s and 1980s, has lost the habit. True, Sweden reverted to Social Democrat-led government in late 2014, after eight years of centre-right rule. But the new administration is following a budget plan drawn up by its predecessors. Norway's conservatives put an end to 12 years of left-wing coalitions in 2013, and Helle Thorning-Schmidt, Denmark's centre-left leader, lost power in June. The former eastern bloc hosts some moderately successful parties with state-socialist leanings (in the Czech Republic, notably), but elsewhere, nationalists and conservatives have benefited from a post-crash mood of uncertainty.

Of course, personalities matter, and just now there are few commanding ones on the centre-left. Europe's memorable leaders of a social-democratic hue, from Brandt and Helmut Schmidt in Germany, to Bruno Kreisky in Austria, Gro Harlem Brundtland in Norway and even Tony Blair, have been confident sorts, not

just purveyors of consensus. In today's rather dull landscape, Sigmar Gabriel, leader of Germany's Social Democrats and vice-chancellor in a grand coalition with Mrs Merkel, stands out as a lively character but this has yet to boost his party's chances of taking power in Germany.

Human factors aside, some deeper problems have afflicted the social democrats. One is an anti-incumbent backlash. The centre-left was widely in power when the crisis struck: in Britain, Greece, Portugal and Spain. Voters lashed out at those in charge, in no mood for excuses. This impatience helps explain a couple of exceptions. Italians, tolerant of Silvio Berlusconi's whimsical ways, turned left when the Democratic Party found a plausible leader in Matteo Renzi. He now cuts a lonely figure on a European stage where economic dramas have their endings scripted by Germans of the centre-right. And Mrs Merkel, incumbent during the crisis, survived because the German recession was short, and then established herself as Europe's foremost leader: tough on euro-zone debtors yet able to hold the European project together.

For all the rows about austerity, preaching it sounded more reasonable to voters than Keynesian wizardry. Electorates may also have concluded that, if cuts had to be made, they were better entrusted to parties in favour of a less bloated state sector to start with. Social democrats' reliance on high public spending to bring about social transformations lacked credibility at a time when markets were dumping the bonds of highly indebted states. More galling has been the propensity of some centre-right governments to steal the left's policies, like boosting minimum wages in Germany and Britain, or the British Tories' embrace of gay marriage. Since the fall of Soviet Communism, mainstream parties of left and right have been threatened with fragmentation. But the centre-left has suffered more, afflicted by the shrinking of the industrial working class and falling trade-union membership.

Old dogs, new tricks

A newer problem, aggravated by the crisis, has been the rise of populist, anti-establishment challengers. Greece's once-mighty PASOK was nearly flattened by flamboyant Syriza; Spain's Socialists have lost some ground to anti-austerity Podemos. Even UKIP, Britain's anti-EU party, originally home to discontented Tories, now draws support from former Labour voters. Matthew Taylor, a former aide to Tony Blair, the last centre-left leader elected in Britain, says insurgent movements can claim to be more in touch with ordinary folk—marginalising older parties that once thrived on representing the masses. The newcomers, Mr Taylor reckons, are more organisationally inventive, whereas traditional parties on the left are tethered to conventions and hierarchies.

Anti-immigration sentiment has proved invidious for parties caught between the embrace of diversity and the protectionist instincts of many workers. The self-image of social democrats as generous and open-hearted sorts has turned into a liability.

Fortunes shift: a decade ago, people were reading a tract on the "Strange Death of Tory England". This proved a trifle premature. But social democrats face a long road back. Franz Walter, a political historian at Göttingen University, notes that Germany's Social Democrats have been an influential force for over 150 years, but have held power for just over 30. With their gradualist ethos and pursuit of distant goals, they may be happier winding a trail to power than wielding it. Social democrats, Mr Walter sighs, "are never happier than when dreaming of a better future". And rather often these days, someone else is busy forging it. ■



Rising wages

Cleaning up

Pay is increasing at last. Some jobs will go—but not always where people think

GUESTS who check in to the Wizard Chambers at the Georgian House Hotel in central London don't just get any old greeting at reception. They descend into a basement guided by candles, to neo-Gothic rooms decorated with faux-tapestries and antlers. The beds, naturally, are four-posters; breakfast is soon to be served on pewter plates. The Harry Potter theme was designed to attract children, says the hotel's owner, Serena von der Heyde, but is now a big hit with adults; the four chambers are booked up months in advance.

Thus business should be looking up for the 60-room hotel. But instead of putting her feet up, Ms von der Heyde has a mentor to deal with: rising wages. Since the financial crisis of 2008, wages have been in the doldrums. Meanwhile, the number of low-paid jobs has been increasing relative to others (see chart). But now that is changing. Real wages rose by 2.7% in the three months to April, a rate not exceeded since before 2008. And in his budget speech on July 8th, George Osborne, the chancellor, announced a 38% rise over the next five years in the minimum wage, now called the "new living wage".

Ms von der Heyde has already been raising the wages of her two-dozen staff a little, in part to improve service in the hotel. Most now earn just over the current minimum wage of £6.50 (\$10.15) an hour. She calculates that bumping up their pay to the £9 required by 2020, while maintain-

ing existing pay differentials among employees, would add £107,000 to a wage bill that currently amounts to about £500,000 a year. "That would kill us", she says.

In a labour-intensive sector like hospitality, where wages are one-third of firms' costs, alarm bells are ringing over the sudden rise. Few businessmen are against the idea of a living wage—indeed, most claim to support it. But they have been disconcerted by the suddenness with which it was introduced, as well as by its steepness. Many complain that the government is doing too little to lighten other burdens. A new auto-enrolment pension scheme is adding to their costs. Those in hospitality and tourism are crosser than ever about the 20% rate of value-added tax, which is

Also in this section

- 51 The squeeze on old people's homes
- 51 Britain's naughtiest nursing home
- 52 Bagehot: The London Underground

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twice the average rate levied in Europe on the tourism industry.

Consequently, people like Ms von der Heyde have some tough decisions to make. She is unwilling to raise prices to pass the extra costs along to customers, as London is already expensive. So pay differentials may have to go, meaning that senior employees won't get wage rises in line with the lowest-paid. The hospitality industry already employs a younger workforce than any other big sector (about one-third are under 25); many hotels and bars will hire more youngsters, who do not qualify for the new living wage until they are 25 years old. That should at least help to reduce youth unemployment, currently 16%.

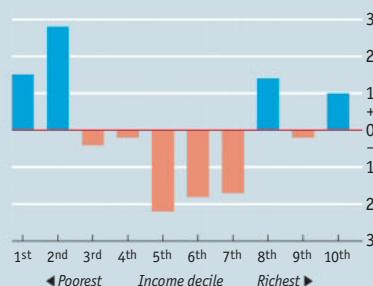
Other industries have less wriggle room. Of the 15m people employed to look after 500,000 mainly elderly people in residential care, about one-third are on the minimum wage. Martin Green, the head of Care England, the industry's lobby group, says the cost of the new living wage cannot be passed on to customers, as these are mainly cash-strapped local authorities that have had their funding slashed. As a highly regulated sector, with tightly monitored staffing levels, it will be hard to shed employees. So, Mr Green says, "some services and domiciliary care will close" (see next story).

James Lowman, head of the Association of Convenience Stores, is similarly gloomy. "Certainly hundreds, possibly over 1,000" corner- and village-shops will shut, he says. The Office for Budget Responsibility, Britain's fiscal watchdog, has predicted that 60,000 jobs will go as a consequence of the new living wage.

Yet there is a limit to the number of low-paid jobs that will be cut, says Stephen Machin of the London School of Economics, for the simple reason that in many businesses labour cannot easily be replaced by

Polarising professions

Change in employment, 2002-10, %



Source: Alan Manning, LSE

► capital. Ms von der Heyde says that she will try to get more out of her cleaners, by paying more attention to their timekeeping, for instance, but that in the end "you can't clean our rooms by robot". Similarly, workers in the care sector need emotional as well as physical skills, which are not readily replaceable by technology. Robots don't (yet) make very good company.

The jobs in immediate danger from rising wages are the more routine ones, such as in administration or manufacturing, that can be more easily automated. Many of these are jobs that command average wages. Academics call this hollowing-out of middling professions "job polarisation", whereby those highly skilled workers, who can harness technology to their work, keep their jobs, as do those such as nurses, who can't be replaced by machines. Which is good news, of course, for the hard-working cleaners of the Wizard Chambers. ■

Old people's homes (1)

Frailer

Old people's homes (1)

Frailer

An ageing population, a shrinking state and a growing problem

BRITONS are living to a riper age—but not without help. As the population greys, more people are needing assistance with washing, dressing and other aspects of their daily care. The King's Fund, a health think-tank, predicts that over the next 15 years the number requiring such help will rise by 61%. Yet funding for it is shrinking. Between 2010-11 and 2014-15, 15% was sliced off local-authority spending on social care. Pressure is building as the government seeks a further £20 billion (\$31 bil-

lion) in departmental cuts ahead of a spending review in November.

The squeeze comes as costs are rising. The Local Government Association has calculated that in order to pay all care workers the new £9 minimum wage by 2020, an extra £1 billion will be needed (for context, last year's entire adult social-care bill was £14 billion). The final straw could be a national shortage of nurses, which is forcing care homes to pay through the nose for agency staff, who charge double the amount of a regular nurse.

Local authorities have responded by tightening eligibility for services, pushing more of the burden onto private purses and unpaid spouses, sons and daughters. Though national eligibility criteria set last year limit how far services can be withdrawn, between 2005 and 2013 the number of over-65s receiving publicly funded social care had already plunged by 30%.

Some care-providers are trying to lower their costs by reorganising their workforce. HC-One, a large nursing-home operator, is training up its carers to reduce the need to hire expensive agency nurses. Staff who previously would have been washing, dressing and feeding are now able to bandage wounds and help manage medicines: things that would normally be done by professional nurses, though they do not need a nursing qualification.

Bigger boosts to productivity will be difficult to find. There are efforts to share more information: Leeds City Council has set up an "Intelligence Hub" to monitor differences in care across the city and identify bottlenecks, for instance. Technology can be used to monitor old folks' needs, alerting carers only if something goes wrong. But local authorities and providers are limited in how much they can innovate, given strict rules on quality and safety, and most of them lack the cash required to invest in new models of care.

The most obvious remaining savings are not in the social-care sector, but in the National Health Service (NHS). According to Age UK, a charity, last year patients spent 174,000 days waiting in hospital beds for places in residential care homes, even though an NHS hospital bed is more than three times as costly as one in a care home. All eyes are on Manchester, where health and social-care commissioning are to be integrated, in the first large-scale experiment of its kind in England. But any savings are likely to take years to materialise.

Integrating health and social care might boost provision for old folk in another way. In the run-up to May's election, politicians fell over themselves to promise the popular NHS more money, but were not so generous to the unglamorous world of social care. Rather than scrabbling around for more efficiency savings, the sector might do better by joining up with the NHS and nabbing some of its political clout. ■

Old people's homes (2)

The rotters' club

Just what does it take to be kicked out of the House of Lords?

IN JUNE Lord Sewel, a deputy speaker of the House of Lords, wrote to *The Economist* to complain about "wearied caricatures" in an article about Britain's doddery, shambolic upper house of Parliament. But on July 26th it seemed that the same peer had fallen for an even hoarser old cliché of politics: a tabloid sting involving two prostitutes, some lines of unidentified white powder and a hidden camera.

After the *Sun on Sunday* released its video, in which the peer snorts lines of what he calls "Coca-Cola—forget the cola" from the breasts of a sex worker while whingeing about his expenses and outlining faintly racist fantasies about Asian women, Lord Sewel stood down from his various parliamentary roles, including the chairmanship of an ethics committee. But he indicated that he had no plans to leave the Lords altogether, and would merely take a "leave of absence". That remained his position as police searched his London flat, the

Labour Party suspended him and David Cameron hinted heavily that it was time for the peer to hang up his ermine robe. On Tuesday, at last, he resigned.

His departure was reluctant, and his alleged conduct probably at odds with the Lords' pledge to act "on their personal honour" (a concept that "has not needed definition, because it is inherent in the culture and conventions of the House", the ethics committee insists). But by the standards of the Lords, his exit was like lightning. Peers guilty of far worse linger on the leather benches (see line-up).

Until this year there was no simple mechanism for expelling members; only last year did they get a straightforward way to resign or retire. This has helped to swell the chamber's ranks to more than 800, including several confessed crooks. Mr Cameron plans to add another 50 or so peers this summer, to address his Tory party's under-representation in the chamber. There is surely a more obvious way to even things up.

Oh Lord

Current members of the House of Lords with criminal convictions, selected

	Charles Nall-Cain Third Baron Brocket Car insurance fraud 1996 Jailed for five years		Jeffrey Archer Baron Archer of Weston-super-Mare Perjury & perverting course of justice 2001 Jailed for four years		Conrad Black* Baron Black of Crossharbour Fraud & obstruction of justice 2007 Jailed in the US for 6.5 years (reduced to 3.5 years after two of three fraud charges overturned)		John Taylor Baron Taylor of Warwick False accounting of parliamentary expenses claims 2011 Jailed for one year		Paul White Baron Hanningfield False accounting of parliamentary expenses claims 2011 Jailed for nine months
<small>*Currently on leave of absence</small>									

Source: *The Economist*

Bagehot | London is working

Union militancy on the Underground tells a capitalist success story



WHEN workers on the London Underground go on strike, Britain's capital becomes an odd cocktail of the miserable and the carnivalesque. Blitz-era double-decker buses are drafted back into service. Queues for taxis wind around buildings. Hospital emergency departments fill with out-of-practice cyclists and rollerbladers. For the wobbly, a strike day is a chance for exercise; for the ostentatious, an opportunity to preen (unicyclists mingling with pedestrians in the hairier quarters of the capital). Some even break the habit of a lifetime and venture a conversation with those into whose armpits they are pressed, daily, in the morning crush.

The disruption is immense—a stoppage on July 9th reportedly sapped London's economy by £300m (\$470m)—and strangely reminiscent of Britain's past, when industrial action by hard-left unions claimed tens of thousands of working days every year. With another shutdown looming on August 5th, Bagehot is tempted to join his fellow commuters in tutting about outfits like the militant National Union of Rail, Maritime and Transport Workers (RMT), whose Marxist leadership exploits its monopolistic power to extract for its members pay and perks much more generous than those in comparable professions. He is, however, also curiously cheered by the strikes.

Why? London is growing. In February it passed its previous population record of 8.6m. Immigration from other parts of Britain, Europe and the wider world, combined with an above-average birth rate, put it on track for 10m by 2030. It is also centralising: the rise of its high-skill knowledge industries, which tend to form clusters, concentrating employment in central areas like Canary Wharf (finance), Old Street (technology) and Chancery Lane (law and business services). London inhales about 2m commuters every morning, exhaling them back out to dormitory towns and suburbs at the end of the day.

As its diaphragm becomes stronger, the city's windpipe is becoming blocked. One recent report for the London Assembly found that four in five Underground users experience "discomforting overcrowding". Stations are busy from ever earlier in the morning until ever later in the evening. In March a woman on a packed platform was dragged under a train. In the same month the throng at London Bridge, a major interchange, was so dense

that people had to vault ticket barriers to avoid being crushed.

Money for improvements is limited. Fares are already eye-wateringly high (a monthly pass costs £225.10, compared with the equivalent of £74.63 in New York). The government already spends a disproportionate amount on London's infrastructure; northern politicians grouse about the cost of Crossrail, a new fast line through central London and out into the suburbs, currently under construction.

Even when improvements go ahead, working on a Victorian network and around the daily surge of passengers is slow and disruptive; like operating on a patient as he goes about his daily business. Progress thus lags behind demand. Sir Peter Hendy, a former boss of Transport for London (TfL), the body responsible for the city's public transport, predicts that Crossrail will be "immediately full" when it opens in 2018.

That leaves operational refinements. TfL is replacing ticket offices with machines and moving staff onto platforms to speed the flow of people through the stations. Attendants with loudhailers instruct passengers like cinema directors: "stand back", "use all the doors", "stand away from the doors; next train in one minute". And in September TfL plans to introduce 24-hour services on five lines, to accommodate London's growing nocturnal economy. The unions reply to the change (as they did to the ticket-office closures last year) with strikes, arguing that TfL's offer of £2,000 in bonus payments, plus an above-inflation pay rise, is inadequate compensation for the inconvenience of night work. They also claim the plans put safety at risk.

The strikes are, of course, a failure of sorts. Negotiations between TfL and the unions are beset with accusations of duplicity and provocation. Moreover, if London's puny mayoralty had the tax-raising powers of its New York equivalent, the city could channel the economic benefits of infrastructure improvements into new investment.

The price of success

Short of such political changes, London leaves little room for compromise between the Underground's controllers and its drivers. The city's transport needs are growing too fast for TfL to delay operational changes or phase them in more gradually. The network's need for investment is too great for it to avert the strikes by giving in to the pay demands of the RMT and its sister union, Aslef. Prices in the capital are too high for union members to let their representatives curb those demands (though generous, drivers' pay falls short of the £77,000 per year that KPMG, a consulting firm, deems necessary to buy a starter home in London). The city's dominance inspires too much resentment from other parts of the country for central government to throw more money at it.

The strikes, then, are the product not only of the unions' monopolistic power, but more fundamentally of London's economic success. At a time when it is fashionable to up sticks and move to cheaper, less squashed parts of the country ("Goodbye London", was a recent, typical broadsheet feature), they are a reminder that, despite everything, millions want to live and work in Britain's capital. As cities from Blackpool to Brindisi struggle with high unemployment, London booms, its opportunities and wealth sucking people in. The RMT may have its banners, its anti-capitalist slogans—and its strikes. But its tactics work only because, week after week, ever more people contort themselves into a cramped steel cage for the ride to a place where they can get on, up and—perhaps—rich. ■



Intelligence and democracy

A new age of espionage

Electronic spycraft is getting easier but more controversial. The old-style human sort is getting harder but more useful

CYBER-CAFÉS were once a favoured tool of Western intelligence and security agencies. They were inconspicuous, cheap to establish and highly effective. Set up near an international summit buzzing with targets, or close to a mosque favoured by Islamist extremists, these facilities allowed their masters to monitor browsing habits, obtain targets' logins and passwords, and plant spyware for future use. This was legal: consent was buried in the terms and conditions which users clicked on without reading. And in a neat twist, security-conscious people trying to avoid using their own computers favoured such places. Some would hop between cafés, unaware that all the convenient ones were run by the authorities.

Not any more. Edward Snowden, a fugitive former contractor for America's National Security Agency (NSA) now living in Moscow, revealed the use of cyber-cafés to spy on the G20 summit in London in 2009. Now people are wary. In many countries the cyber-cafés have been closed. The staff who ran them have had to be moved (and in some cases given costly new identities). As a result, keeping track of terrorism suspects is now harder, spooks say.

The episode highlights one of the most important trends in modern intelligence work. Collecting electronic information is

generally getting easier. It is hard to lead a completely non-digital life, and any activity using computers and networks creates openings for the watchers. An e-mail is as easy to read as a postcard for anyone with modest technical skills. With a few tweaks, mobile phones become tracking beacons and bugging devices. Most people readily trade private information for convenience. And hacking into computers can yield vast amounts of intelligence.

A lot of spying, however, has become trickier. It is much more difficult for intelligence officers to maintain secrecy and create fake identities. And high expectations of privacy, especially in the digital realm, mean that in many countries the work of intelligence and security agencies arouses outrage, not gratitude.

Secrets and lies

In theory it should come as no surprise that spy agencies spy, and that the biggest and best are good at it. But the Snowden revelations underlined some uncomfortable facts. Espionage is inherently lawless. Supposedly private communications are fair game. Seemingly friendly countries spy on each other. The news (subsequently dismissed by German prosecutors) that America listened to Angela Merkel's mobile phone was one of a corrosive series of

revelations which led to the CIA station chief's expulsion from Berlin—a low point in the two countries' relations.

In particular, electronic intelligence-gathering is based on trawling and sifting huge amounts of information. This includes private communications between people who have no connection to crime, terrorism or statecraft. Western spymasters insist that this material is of no interest to them: it is merely the inevitable by-product of collecting communications which contain the material they are interested in. In some countries the public seems unworried. A sweeping new spy law has caused few ripples in France, for example. In others, such as Germany, spooked by its Nazi and Stasi past, it has led to blazing rows. Whose information may be intercepted? Where should it be warehoused? For how long? Who should have access to it? These questions go to the heart of the relationship between the state and the citizen.

Both Britain and America are re-jigging their oversight arrangements in an attempt to assuage public worries. America's NSA no longer directly intercepts and stores electronic communications between residents of the United States: it must apply for a warrant to obtain them from internet and phone firms (access to foreigners' communications remains unaffected). Britain's independent scrutineer of terrorism legislation, David Anderson, a lawyer, has issued a report blasting what he terms ramshackle supervisory arrangements. He wants stronger judicial scrutiny instead of the existing system, which is based on government ministers authorising intercepts.

Though the spy agencies remain incandescently angry with Mr Snowden and his supporters, spymasters in Britain and America grudgingly admit that they now need to work to regain public trust. The old combination of secrecy and public ignorance is no longer enough. Spies now need a public consensus to legitimise their work—especially when it comes to activities which intrude on the privacy of their own citizens. Building that will take years.

The Snowden revelations not only showed that electronic espionage was far more intrusive than many had realised. They also gave clues about how to avoid it. Encrypted electronic messaging, for example, is much tougher to intercept and trawl for clues than e-mails or phone calls. The encryption keys may be held only by the communicating parties—so there is no point in serving a warrant on, say, Apple to get access to messaging that uses its platform. The spooks complain mightily about this—James Comey, the director of the FBI, says firms which provide encryption software to their customers should have a duty to provide the decryption keys to law-enforcement agencies. Critics see this as either futile or dangerous: a warehouse full ➤

► of keys would be a target for attack.

What the spooks talk about less is the many ways in which they can get round encryption. However heavily encoded a communication is while in transit, it must be composed and displayed in a way that humans can understand. This involves keyboards and computer screens—known as “end-point vulnerabilities”. If you know what your target has written, and what he is reading, the fact that it was transmitted with heavy encryption does not matter. Spies may have to work harder on their targets but no communication, electronic or otherwise, is completely secure: it is just a question of how much effort the other side can put into getting hold of the message.

A much bigger worry for the spies is that the very vulnerabilities which make it easy for them to steal other people's secrets also make it hard for them to hold on to their own. In pre-computer days, intelligence agencies kept files on paper. Access was strictly controlled; making copies more so. That arrangement was cumbersome but made it possible to see exactly who had looked at a file, when and why. Looting an intelligence registry of its documents was all but impossible.

That has now changed. Computers are inherently leakier than cardboard files tied with ribbon and kept under lock and key. Any network connected to the internet is at risk of penetration. Even those that are “air-gapped”—kept physically separate—are vulnerable. A doctored mobile phone can secretly plant spyware on a target's computer and vice versa. Large quantities of data can be carried on a computer chip the size of a cufflink. In some quarters, for the most secret documents, manual typewriters and carbon paper are back in fashion.

This weakness was highlighted by Mr Snowden, who used his role as a lowly technician to extract a huge cache of documents from the NSA and other agencies. Only a fraction has been published (and, critics say, only a small number of those bear on his purported concerns about privacy and oversight). The NSA and allied agencies are still struggling to work out what was taken and assess the damage. Have the documents fallen into the hands of Russian and Chinese spooks, for example? British and American spies have already been moved from places where they may now be at risk; some have been given new identities.

Once more unto the breach

The Snowden breach—termed at the time the West's greatest intelligence disaster—is only one of many in recent years. Jeffrey Delisle, a Canadian naval officer arrested in 2012, was sentenced to 20 years imprisonment in 2013. For five years he had been passing Russia information from Stoneghost, a secret intelligence-sharing network for the “Five Eyes” countries (Ameri-

ca, Australia, Britain, Canada and New Zealand). The Snowden files undoubtedly added details and gave ammunition to anti-Western propaganda outfits. But according to John Schindler, an American spy expert, the Delisle breach meant that Russian intelligence already “had it all”.

Perhaps worse is the catastrophe at America's Office of Personnel Management (OPM). This low-profile agency handles security clearance for the millions of Americans who work for the federal government, and many of their spouses and children. Yet for more than a year, outsiders (probably Chinese spies, though American officials will not say so publicly) were running freely across its networks and databases, with the loss, by the latest tally, of information relating to 22m people.

This included the 127-page SF-86 security-clearance forms, on which candidates for sensitive jobs have to give an exhaustive account of their past, including foreign



contacts. The OPM also lost another set of files: the so-called adjudication data, relating to sensitive personal details which had caused difficulties at work, such as extramarital affairs, sexually transmitted diseases and other health matters, as well as the results of polygraph tests. The OPM used laughably weak security and did not encrypt the data it held. The breach came when hackers stole the login and password of an employee working at a commercial contractor for the agency. The OPM's director has now resigned.

The OPM does not deal with current staff of the CIA and other agencies but that is no great comfort. The information enables Chinese (or other) counter-intelligence services to play “spot the spy”. The core activity of a Western intelligence agency is to send its officers overseas as embassy officials. This is known as “official cover” and at some levels the pretence is a matter of politeness. Titles such as “economics attaché”, “first secretary (external)” and “counsellor (information)” give a semi-public signal of what the real job is.

Other identities are tightly concealed. Spies may work as lowly administrators or consular officials, performing routine tasks and seemingly of no interest to the hostile country's counter-intelligence services. But their real task is far more important: collecting clandestine communications from dead drops, watching out for signals from sources and so on. They may be in charge of meeting agents in inconspicuous places or supporting other spies working under deep cover, without the protection of a diplomatic job.

If 28 of the 30 purported officials at a diplomatic mission, say, are listed on the OPM's database, then it is a fair bet that two who are not must be undercover intelligence officers. It is also possible to work out which people have moved from the intelligence world to regular diplomatic and other government service. In short, if the OPM tells you who the real diplomats are, it is possible to identify the pretend ones. That helps a hostile foreign intelligence service work out what the spies have been up to. Past patterns of activity and contact, which seemed innocent at the time, can be re-examined to see if something else was afoot. That can lead to sources being caught, jailed or, in some countries, executed.

A further difficulty is that information about personal weaknesses is ripe for exploitation. Intelligence officers seeking to recruit a target work on four frailties, summarised in a CIA dictum as money, ideology, compromise and ego (MICE for short). A frank account of a target's financial woes, political views, sexual peccadilloes and personality quirks makes that a lot easier.

Insiders reckon it will take decades for American intelligence to recover from the OPM breach. But rebuilding a human-intelligence service will be a lot harder in the digital age. Before the days of electronic databases and biometric checks, creating a new identity for a spy was easy. A well-used passport in a fake name, a wad of travellers' cheques and some visiting cards were enough.

Now creating a convincing fake identity is much more difficult. Anyone without years of credit-card, mobile-phone and utility bills is automatically pinpointed as a potential spy for the other side. These can be falsified, but it takes time and effort. Worse is biometric information. If you claim to be visiting Russia for the first time, but your facial bone structure, gait, retina scan or DNA shows you were there before under another name, you are in trouble. Spymasters cannot easily overcome these difficulties—using people with solid real-world identities who act as spies on the side is far harder than faking identities.

Technology has turned the spy world upside down. The benefits of successful espionage have never been greater. But so are the penalties for carelessness, both in public opprobrium and secret disaster. ■



Luxury goods

Counterfeit.com

NEW YORK

Makers of expensive bags, clothes and watches are fighting fakery in the courts. But the battle seems to be getting tougher

THE grand golden doors of 500 Pearl Street, in Manhattan, have welcomed such glamorous names as Hermès, Tiffany & Co and Kering, a French conglomerate whose treasures include Gucci and Bottega Veneta. The building is not a posh hotel or department store. It is the federal court for the Southern District of New York, a favoured battleground for the decidedly unglamorous war against counterfeit goods.

The court is now the venue for Kering's suit against Alibaba, a Chinese e-commerce giant. Kering alleges that Alibaba helps fakers sell goods on its websites. The French firm is not the only one to be incensed. On July 17th the American Apparel & Footwear Association (AAFA) demanded that Alibaba crack down on counterfeits. Alibaba insists it has extensive measures in place to do just that. It is trying to distance itself from counterfeiters, who are also accused by Kering. On August 6th Alibaba plans to argue to the court that it risks being unfairly implicated as a co-conspirator.

A bitter trial looks likely.

The fight against copycats has been long and arduous. Kering's suit is the industry's most important in a decade—Alibaba has more than 1 billion product listings and aspires to reach consumers around the world. But its sites are hardly the only places shoppers can find copies. Fake sales are proliferating online, with counterfeiters becoming more technologically adept, more difficult to track and harder to pursue in court.

Counterfeit sales are, by definition, difficult to tally. Last year American border officials nabbed copies that, had they been genuine, would have been worth \$1.2 billion. Their European Union counterparts seized €768m (\$1 billion) of fakes in 2013. But these were surely a fraction of the counterfeits being peddled. Estimates for the total value of fakes sold worldwide each year go as high as \$1.8 trillion.

The deluge of fakes includes everything from software and medicine to detergent

Also in this section

- 56 Israel's computer-security firms
- 57 A Gulf property giant
- 58 Pearson, the FT and The Economist
- 58 Greening the palm-oil industry
- 60 Schumpeter: Myths about millennials

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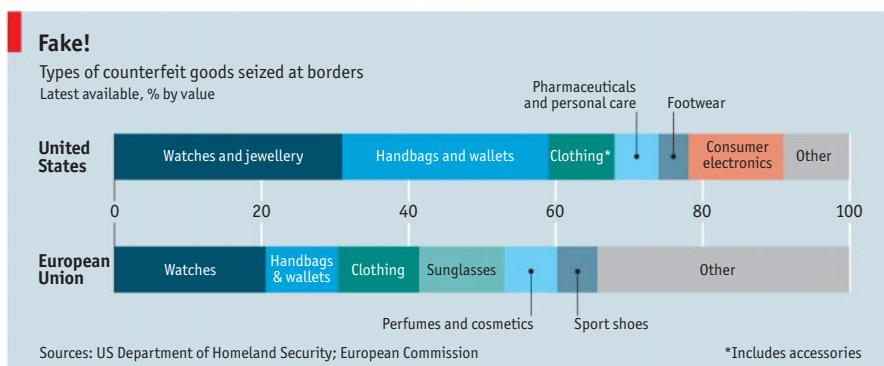
Economist.com/business-finance

and car parts. On July 26th, for example, Chinese authorities said police had raided a factory turning out huge quantities of iPhone copies. Nevertheless, watches, bags, clothing, jewellery and perfume make up most of the goods seized at borders (see chart). On July 21st the European Commission reported that lost sales due to fake clothes and accessories amounted to 10% of the industry's revenue in Europe. This makes luxury firms shudder. They cherish their reputations for quality and exclusivity, explains Antonio Achille of the Boston Consulting Group. Ubiquitous, flimsy copies undermine them.

The problem has grown more complex as the fakery business has moved online. America's trade representative predicted in April that online sales of pirated goods might exceed those in physical markets, adding glumly: "Enforcement authorities, unfortunately, face difficulties in responding to this trend." Online, counterfeiters can stay anonymous, reach across borders and constantly launch new websites to evade legal action. Governments have a devilish time tracking fakes sold online and delivered by post, explains Armando Branchini of Alttagamma, the trade group for Italian luxury firms. Fakes shipped in bulk, destined to be sold in physical shops, are hard enough for border guards to spot. "But when it's a matter of millions of parcels, each with a pair of shoes or bag or shirt," Mr Branchini sighs, "it's quite impossible to check."

Since it is so difficult to fight both fake-goods websites and the counterfeiting operations behind them—if you shut one factory, another will crop up nearby—luxury-goods firms are increasingly taking aim at the legitimate firms that facilitate the business of counterfeiters, such as auction websites, internet-domain registries and payment processors. Sometimes brand-owners seek these firms' co-operation in court. Sometimes they sue them.

This has had mixed success. In 2004 Tiffany claimed that eBay was liable for the ➤



► counterfeit sales on its site. eBay retorted that it could not prevent every illicit post, though it would work to remove them. Courts agreed. eBay and Google, which has also been the target of lawsuits, have systems to fight dubious sellers and advertisers. Neither, however, is foolproof.

Alibaba and the forty fakers

According to Kering's lawsuit, Alibaba poses a new challenge. On eBay, a counterfeiter might auction one or two handbags at a time. Kering alleges that one wholesaler on Alibaba required a minimum purchase of 500 fake Gucci watches and claimed it could deliver up to 8m each month. Brand-owners tremble at the spectre of Alibaba's 8.5m sellers hawking masses of counterfeits both within China and around the world. Kering's investigators, for example, bought fake Gucci sneakers on Alibaba's Taobao.com and had them shipped to New York. Kering alleges that Alibaba not only provides a platform for these sales, but encourages them. Kering complains that if you type "replica" in the search bar in Alibaba.com, the site's algorithm will suggest "wristwatches".

Alibaba counters that it, too, is a victim of counterfeiters and is working to fight them. The company has more than 2,000 staff devoted to the problem. They pore over dodgy listings flagged up by Alibaba's algorithms and by brand-owners. In the run-up to its public offering last year, the firm removed 90m listings. Indeed Alibaba has acquired some weighty partners—it has signed agreements with Louis Vuitton, Coach and others to co-operate on fighting counterfeits. But its disputes look likely to heat up. The AAFA wants Alibaba to set up an automated system to take down dubious listings immediately, a demand that is unlikely to be met. The fight with Kering will continue. The two parties have already tried and failed to reach agreement outside court.

Meanwhile sales of counterfeits continue to sprawl across the internet. For example, it is common for Chinese consumers to dodge the high price of luxury goods in their own country by buying them on so-called *daigou* websites: a shopper might buy a handbag in Europe, then resell it on one of these websites for more than the European retail price but less than the Chinese one. Many products on such sites are genuine. Many are not.

More pervasive are the sites that pose as legitimate sellers of discounted goods. They may have domain names registered in one country, servers in another, payment-processing elsewhere and shipping from yet another place, according to Mark-Monitor, which helps companies protect their brands online. Roxanne Elings, a lawyer at Davis Wright Tremaine, says one counterfeit outfit may run as many as 14,000 websites.

Firms have had some success in battling these sites, again by focusing their attention on legitimate companies that serve them. In 2010 Ms Elings helped North Face and Polo Ralph Lauren obtain court orders for domain registries to take down networks of rogue sites, and for PayPal to turn over fakers' assets. Tory Burch, Hermès and Michael Kors won similar cases in 2011 and 2012.

Since then, however, counterfeiters have become more slippery. Ms Elings says that networks of sites are using multiple registries and myriad fake names. Joseph Gioconda, a lawyer who has represented Hermès, Michael Kors and Lululemon, says that catching up with copycats is daunting when their assets are held out-

side America. Kering and Tiffany had sought to freeze counterfeiters' accounts at Chinese banks, but last year an American court refused to do so. That will make it harder to obtain foreign records that might expose counterfeit rings. ■

The role of consumers in all this is complex. Some are looking for the real thing at discount prices, and are deceived. Others are knowingly hunting for fakes. Both types may regret their penny-pinching. The most troubling recent trend is that online counterfeiters have discovered a new source of revenue. Some of their sites have no goods to sell, real or fake. They are simply out to steal unwitting shoppers' card details, a business that can enjoy higher margins than any handbag. ■

Israel's computer-security firms

Cyber-boom or cyber-bubble?

TEL AVIV

Internet security has become a bigger export earner than arms

ISRAEL'S arms exports fell last year. Cutbacks in the defence budgets of many Western countries pushed the global sales of Israeli weapons systems down to \$5.7 billion, \$1 billion less than in 2013. Unexpectedly, another security-related industry took up the slack. For the first time, the country sold more cyber-wares than arms. According to figures published recently by the cyber-task-force in the prime minister's office, in 2014 Israeli companies sold around \$6 billion of internet-security software, equivalent to about a tenth of the entire worldwide sales of such stuff.

A big chunk of that came from Check

Point, best known for its ZoneAlarm anti-virus software for home computers, and a provider of a broad range of online-security products for business. Its revenues last year were \$1.5 billion. But Israel is also producing lots of cyber-security startups. Last year eight of them were sold to foreign investors, for a total of \$700m. In September CyberArk, which specialises in protecting firms against attackers who pose as system administrators and other insiders, had one of the year's biggest IPOs on the American NASDAQ market, and its current valuation is around \$2 billion.

The number of Israeli cyber-security companies has doubled over the past five years to 300. Demand for their products has boomed, as businesses and governments everywhere have come to realise—often the hard way—that they need to protect themselves against hacking. And Israel has a good supply of experienced software engineers. They come mainly from two sources: first, employees of the 280 high-tech development centres in Israel owned by foreign multinationals, who have begun to strike out on their own; and second, the hundreds of people with suitable skills who leave the Israel Defence Forces each year. The forces have for decades been developing their capabilities—both defensive and offensive—in cyber-warfare, and this policy is now paying a civilian dividend.

The many serious hacking incidents of recent years have shown that computer systems can be infiltrated through all sorts of channels, for instance through mobile devices, or by breaking into databases hosted by a third party in the online ►



► “cloud”. Earlier software was able to detect known strains of computer viruses, but the rapid evolution of malware has, among other things, given rise to companies offering software that predicts where hackers may next attack and provides defences against them. Some of Israel’s cyber-security startups have established themselves as market leaders.

Nevertheless, a few Israeli entrepreneurs worry that the cyber-startup boom may be turning into a bubble. “Every kid who leaves Unit 8200 [the Israeli forces’ electronic-intelligence operation] thinks he’s going to be a cyber-millionaire, and then some of the startups are immediately evaluated at \$5m without having done anything,” grumbles an Israeli venture capitalist. “There is a bit of a bubble vibe” to what is happening, says Yigal Erlich, one of the pioneers of Israel’s venture-capital scene. “There could be a limit to this cyber-market. But on the other hand, for Israeli technology this is a perfect niche-market in which local companies can become world leaders.”

Gadi Tirosh, the managing partner of JVP, a venture-capital fund based in Jerusalem and chairman of CyberArk, says that over the past two years his fund has examined nearly 300 startup projects in the cyber field but does not believe there is a bubble. “What we are seeing is an overnight evolution, which happened when the chief security officers of corporations around the world suddenly realised how vulnerable they are, and that the cyber-attack can come from anywhere, including from within...That fear is only growing, and in the cyber-industry, that fear means money.” To tap into the reservoir of technically experienced yet often financially naive software engineers looking to enter the industry, JVP has set up a campus in the southern city of Beer Sheva, which serves as an incubator for startups.

The Israeli firms’ main competitors are, unsurprisingly, mostly based in Silicon Valley, where the startup culture, and all the financing and advice that goes with it, is far stronger and longer-established. But the boss of one Israeli firm argues that it and its peers have a big advantage over their American counterparts: the “Edward Snowden factor”. Since the former contractor to the US National Security Agency revealed how much American technology firms were co-operating with the agency, including putting “backdoors” in their software to allow surveillance, clients around the world are looking for “non-American security” for their data, the Israeli entrepreneur claims. Notwithstanding the very close relationship between American and Israeli intelligence, and the links that many Israeli cyber-security entrepreneurs have with their country’s armed forces, the cyber-boss reckons that in many cases, “Israel is their only alternative.” ■

Emaar Properties

Building castles on sand

CAIRO

The UAE’s best property firm finds success is not so easy away from home

WHERE it built to its original design, the Burj Khalifa would have just 90 floors, says Muhammad Alabbar, the chairman of Emaar Properties, which developed the skyscraper. But when Mr Alabbar presented his plans to Sheikh Muhammad bin Rashid al-Maktoum, the ruler of Dubai, he was told to do better. So, 73 floors were added, making the Burj Khalifa far taller than any other building when it opened in 2010.

The rise of Emaar has been just as vertiginous—and similarly influenced by Dubai’s ruler. Since it was founded by Mr Alabbar in 1997, the firm has grown to become the emirate’s biggest property developer by market value. Its profits rose by 30% in 2014, to \$912m, and its spectacular buildings and planned communities have helped put Dubai on the map. The question now facing Emaar is whether it can sustain this momentum as it seeks to become a global business.

Emaar has undoubtedly benefited from the right connections. About 30% of it is owned by a sovereign-wealth fund; and Mr Alabbar says he doesn’t do anything without talking to Sheikh Muhammad. In many ways the firm is a reflection of the state. After neighbouring Abu Dhabi bailed out Dubai during the financial crisis, the then Burj Dubai was renamed the Burj Khalifa in honour of Sheikh Khalifa bin Zayed al-Nahyan, the ruler of Abu Dhabi.

The crisis, though, also highlighted Emaar’s superior management. When Dubai’s property market collapsed, sales fell to “nothing”, says Mr Alabbar. But Emaar did not suffer as much as rival developers in which the royal family own controlling stakes, which he says had been too “aggressive”. The debts run up by Dubai Properties and Nakheel Properties (best known for building the artificial Palm Jumeirah island), nearly sank the emirate. Emaar, meanwhile, increased its investment in fancy hotels and shopping centres, which now account for most of its revenue. Earlier this year Moody’s, a credit-rating agency, gave Emaar’s debt a “positive outlook”, meaning that its rating may be upgraded, because of the company’s robust liquidity.

Emaar has distinguished itself not just with the size of its projects—it also has the world’s largest mall—but also with their quality. “They are in a league of their own,” says Massoud Derhally, a consultant with Argento Strategies in Dubai. But its dependence on the local market makes for a



Reach for the sky

bumpy ride. Residential-property prices are expected to fall by 10-20% this year, amid worries about an excess of supply.

Emaar is hoping that more of its growth will come from abroad. Its international projects now account for around 11% of revenues, a number the firm would like to double in the next few years. Dubai’s urban model of planned communities and grand buildings is envied in other capitals, resulting in what some call the “Dubaisation” of the region. Emaar is a beneficiary of this trend. It is building a “new world city”, bigger than Washington, DC, in Saudi Arabia. It has other big projects in Egypt (where it recently floated its local subsidiary), Jordan, India and Turkey. The firm’s land bank includes about 200m square metres (49,000 acres) of foreign soil.

But Emaar’s track record abroad is spotty. Three years after the firm bought John Laing Homes in 2006, the American builder filed for bankruptcy. Since then Emaar has mostly stuck closer to home. In India, its local joint venture has been caught up in corruption allegations over the facilities for the 2010 Commonwealth Games, which it helped build. (The company says the matter is related to contractual obligations and is *sub judice*, so it cannot comment.) More recently, the firm has denied ►

The newspaper business

Read all about us

Pearson sells the FT, and may sell its stake in The Economist

IN RECENT years a variety of global names in journalism have been put forward as potential buyers of the *Financial Times*. But it came as a surprise when, on July 23rd, the *FT's* owner, Pearson, announced that it was selling the newspaper to Nikkei of Japan, for £844m (\$1.3 billion). Pearson wants to concentrate on its education businesses, and its boss, John Fallon, argued that with the growth of mobile and social-media platforms, a better home for the *FT* would be a global, digital news company.

However, it is not clear quite how Nikkei fits the bill. It publishes Japan's largest business newspaper, the *Nikkei*. But it is almost entirely focused on the domestic market. Its daily has 2.7m paid subscribers to the *FT's* 720,000, but only one-sixth of them receive the paper digitally. The *FT* is much further along in the transition from print, with two-thirds of subscribers having gone digital.

Nikkei has promised to respect the *FT's* editorial independence, even though its own journalistic culture is far removed from that of the British paper. It is a willing participant in Japan's system of cosy "press clubs", in

which reporters are spoon-fed news in return for steering mostly clear of negative coverage. In 2011, for example, the *Nikkei's* editors dragged their feet for weeks after the *FT* began reporting the accounting scandal at Olympus, a camera-maker. In a comment that will surely have made the *FT* newsroom cringe, Japan's economy minister, Akira Amari, said the takeover would lead to more accurate reporting of government economic policy.

There will be no formal guarantee of the *FT's* editorial independence. But nor was there any such guarantee under Pearson's ownership. Furthermore, Nikkei's bosses will surely understand that any attempts to tinker with it would gravely undermine the value of the asset they have just paid so dearly for.

Pearson's sale of the *FT* did not include its 50% stake in *The Economist*, which confers neither corporate nor editorial control. However, Pearson has said it is in talks to sell its *Economist* stake. One existing shareholder, Exor, run by John Elkann of the Agnelli family, said it was exploring the "possibility of increasing its investment in the group". The transfer of one class of shares would have to be approved by independent trustees whose role is to safeguard our corporate and editorial independence. The transfer of the remaining shares would have to be approved by our board.



reports that it wants to leave the country. Some of its foreign land is tangled up in legal disputes or is in countries suffering from war or political unrest, such as Syria. Mr Alabbar admits that business is tougher away from Dubai's helpful leaders.

Some of Emaar's shareholders worry that Mr Alabbar is distracted by his other endeavours, and see them as conflicts of interest. He is the founder of Capital City Partners, which is in talks to build a huge new capital city in Egypt, and a board member of Eagle Hills, which is responsi-

ble for big projects in Serbia and Nigeria. Several former Emaar executives have jumped ship to join these and other firms, leading to talk of a brain-drain.

Mr Alabbar dismisses such criticism by pointing to the company's figures, which are undeniably good. Emaar has increased its profits in eight straight quarters. It is hard to find an analyst who is betting against the firm. But Emaar has benefited from Dubai's status as a haven in an unstable region. Duplicating its success outside the emirate will surely prove more difficult. ■

Business and the environment

A recipe for sustainability

CAREY ISLAND

Palm-oil firms are trying to go green. Governments could do more to help

TOSS the fruit of the oil palm in your hand—a reddish-orange lozenge not much bigger than a chestnut—and it is difficult to imagine all the trouble it has caused. At Carey Island, an enormous plantation run by Sime Darby, a Malaysian grower, more than a million shady palm trees buttress Kuala Lumpur's outermost sprawl. Workers with telescopic scythes cut down fruit bunches a bit bigger than footballs, which break into pieces on the ground. At an old, clanking mill, where the greasy nuggets are pressed and steam-sterilised, the air smells sweetly of syrup.

Yet Carey Island is the presentable face of an industry which has done a lot of harm. Driven by swiftly-rising demand for vegetable oils (see chart 1, next page), over the past two decades the spread of oil-palm plantations has destroyed swathes of tropical forest, releasing much of their trapped carbon into the atmosphere. Indigenous people have been chased off land they had long occupied, and the migrants brought in to tend the plantations have often suffered appalling working conditions.

In all, palm oil has become symbolic of agriculture's worst excesses. In developing countries it has usually been far cheaper and easier for farmers of all kinds to plough up more virgin forest than to improve the productivity of their existing acreage. Farming has thus faced a more difficult trade-off between growth and the environment than most other industries. However, some of the largest palm-oil companies, stung by their portrayal as environmental villains, have been making efforts to switch to more sustainable ways. In doing so, they may be writing a template for other forms of agriculture.

Palm oil is an essential crop. Most commonly used as a cooking oil, it is also present in everything from chocolate to shampoo. It can be turned into a biofuel, too. In theory it could be good for the environment: you need only a tenth or a quarter as much land to produce a tonne of oil from palm as from other crops, such as soybeans or sunflowers. However, it thrives only in low-lying tropical areas—particularly in Malaysia and Indonesia, which host nearly 90% of all production. The destruction it has wrought on rainforests and peatlands has horrified environmentalists. Tree-felling and bog-draining has made Indonesia one of the world's biggest contributors to global warming.

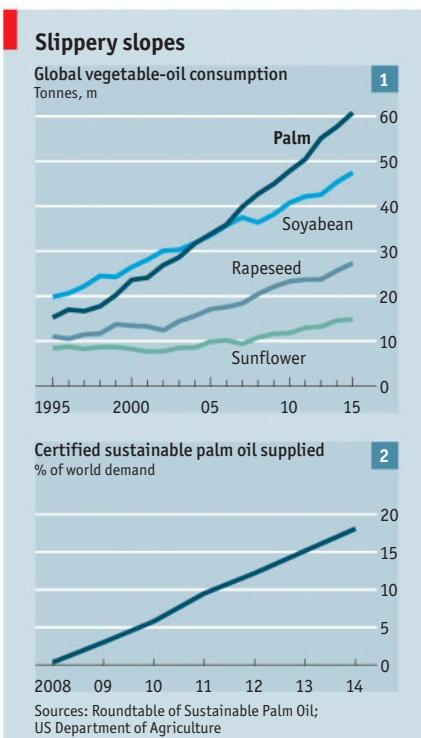
Change first took root in 2004 when ►

producers and users of palm oil set up a Roundtable on Sustainable Palm Oil (RSPO), which included some of the NGOs that criticised the industry. The RSPO set new standards of production. For example, it required its members to stop cutting virgin forest, and only to grow or use oil from land to which growers had clear rights. It also introduced a certification scheme for oil which complied with its rules. Its progress has at times been achingly slow, and some environmentalists still think its standards too meek. But the supply of certified palm oil has grown swiftly in recent years, reaching 11m tonnes, or about a fifth of global demand, last year (see chart 2).

The roundtable's work has been accelerated—and, say some, superseded—by campaigners who have taken aim at the giant consumer-goods firms that are the largest buyers of palm oil. In 2010 Greenpeace linked the palm oil in chocolate peddled by Nestlé with the destruction of forests inhabited by the orang-utan. The next year Nestlé's biggest supplier, Golden Agri, became the first of Indonesia's large palm growers to pledge to stop deforesting. With the largest palm-oil consumers, such as Unilever, pledging to seek environmentally sustainable supplies for all their raw materials, Sime Darby has also seized the opportunity and is now the world's largest producer of certified oil.

The watershed was an announcement made in late 2013 by Wilmar, a giant Singaporean trader which handles more than 40% of all globally-traded palm oil. Its trio of promises—no deforestation, no destruction of peatlands, and no exploitation of locals—went some way beyond what the roundtable had required. Wilmar's decision was encouraged by pressure which campaigners had put on its big customers, such as Kellogg. It was also probably hastened by embarrassment over a severe haze which had cloaked South-East Asia that summer, caused by fires resulting from land clearance in Indonesia. Since Wilmar's move a "tsunami" of traders, growers and consumer-goods firms have all made their own promises, says Scott Poynton of the Forest Trust, an environmental consultant. These pledges now cover at least 60% of globally traded palm oil.

Assuming all these companies keep their promises the industry's transformation could be "a model for commodity agriculture globally", reckons Joel Finkelstein of Forest Heroes, a lobby group. Indeed, bodies similar to the RSPO have begun to be set up in other areas of agriculture. But there is disagreement over the lessons to be learned. Adam Harrison of the World Wildlife Fund reckons that the present flurry of pledges might not have happened without the RSPO's years of behind-the-scenes standard-setting. Other campaigners argue that the roundtable's consensus-seeking model slowed progress to the



speed of the least enthused.

It may be that the greatest legacy for other agricultural producers will come not from mimicking how the palm-oil industry has reached this inflection-point but in watching how it approaches the tricky problems that remain. Activists who have managed to convince American and European consumers of the palm-oil industry's misdeeds, for example, have so far had less success persuading Indians and Chinese. Therefore, for now, palm-oil firms which supply those enormous markets look much less reformed than their peers that sell to the rich world.

Another looming challenge is to improve productivity among the very small, often family-owned, farms that still produce something like one-third of all palm oil. They may get less than 10 tonnes of palm fruit from each hectare, compared with the industry-wide average of around 20 tonnes and the 27 tonnes that the Carey Island plantation achieves. Sime Darby says the best-performing fields there produce up to 40 tonnes; so there is much scope for meeting rising demand for palm oil without destroying more forests.

Perhaps the most important task, for both campaigners and palm growers, is to wring more assistance from governments in commodity-producing countries, which up to now have played only a modest role in their greening. In Indonesia, the official mapping of land is outdated and inconsistent; as a result its authorities have continued to assign areas of forest for palm cultivation even as less vulnerable land lies ignored. Rules requiring growers to develop their concessions swiftly have some-

times allowed officials to seize back areas which responsible-minded plantation firms had chosen to conserve, or before they had completed negotiations with indigenous people.

Indonesia says it wants to cut its carbon-dioxide emissions by more than a quarter by 2020; since 2011 it has trumpeted a patchily-enforced ban on tree-felling in its thickest jungles. But the government is "nervous" about the newfound conservationism among big palm-oil firms, reckons Krystof Obidzinski of CIFOR, a forestry think-tank. Officials may be worried about how the industry's enthusiasm for greenery will affect the government's plan to boost the economy's sluggish growth rate through a big expansion of the industry, a useful rural employer.

Expanding the industry, though, need not be incompatible with continuing to make it greener. Along with a few other growers, Sime Darby last year asked a team of scientists to come up with a precise definition of which sorts of land should be considered off-limits to growers if the industry is to expand without further frying the planet. Their findings, published in draft form in June, would rule out not just virgin forests but most that have been only partially cleared, as well as "secondary" forests—those which have been cleared but allowed to grow back for 20 years.

That would be a bold step forward: Leela Barrock of Sime Darby says that, if such rules had been in force when the firm began operations a century ago, hardly any of its present plantations would have been permitted. It may also provide a trusty yardstick for many other kinds of crop, among them pulp and paper. But it will not be worth much if only the most enlightened firms abide by it. Better for governments to write such restrictions into national laws. That way, everyone might end up smelling sweet. ■



A fruitful endeavour

Schumpeter | Myths about millennials

Businesses should beware of dubious generalisations about younger workers



ONE of the perks of getting old is that you are allowed to talk nonsense about the young. Plato was said to have complained that young people “disrespect their elders” and “ignore the law”. Peter the Hermit griped that they “think of nothing but themselves” and are “impatient of all restraint”. Today, grizzled business pundits tend to mix in some praise with their gripes. But they abuse the privilege of age as much as anyone ever did.

Such modern-day sages tell employers they must adjust their management styles to meet the expectations of millennials—those born between 1980 and 2000, also known as generation Y. These people are now the largest group in America’s workforce, making up 37% of the total, compared with 34% for the baby-boomers—those born up to the mid-1960s, now retiring in droves. It is often pointed out that millennials are the first generation to have grown up in the digital era. That is true, but much else that is said about them is conjecture. They are said to be natural collaborators. Everything from their education in kindergartens to their participation in social media has turned them into team players. But at the same time they reject careerism and are allergic to being managed. Tamara Erickson, a consultant and author of “Plugged In: The Generation Y Guide to Thriving at Work”, says millennials “think in terms of how to make the most out of today and make sure that what they are doing is meaningful, interesting and challenging.” Andrew Swinand of Abundant Venture Partners, a venture-capital firm, says that doing business responsibly is the millennials’ “new religion”. The only way to attract and retain these highly strung creatures is to turn your offices into open-plan playpens and boost the corporate social responsibility (CSR) budget.

Finding evidence that contradicts all this is not hard. CEB, a consulting firm, polls 90,000 American employees each quarter. It finds that the millennials among them are in fact the most competitive: 59% of them, in the latest poll, said competition is “what gets them up in the morning”, compared with 50% of baby-boomers. Some 58% of millennials said they compare their performance with their peers’, as against 48% for other generations. They may spend much time messaging with other millennials on their smartphones, but they do not have much faith in them. Fully 37% of millennials say they don’t trust their peers’ input at work; for other generations the average was 26%. This is a gener-

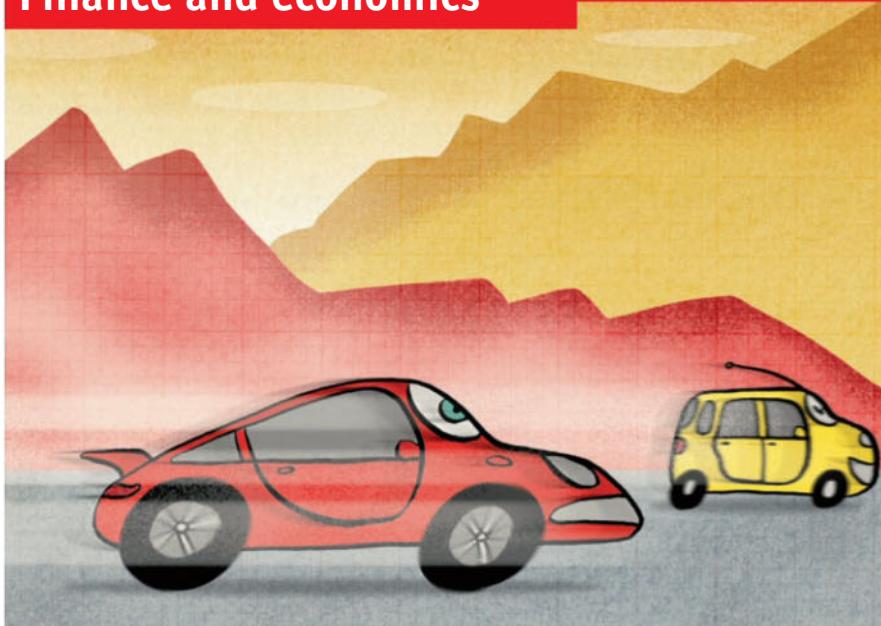
ation of individualists, not collaborators. As for the idea that they are anti-careerist, CEB’s poll finds that 33% of millennials put “future career opportunity” among their top five reasons for choosing a job, compared with 21% for other generations. Likewise for corporate do-goodery: only 35% of millennials put a high emphasis on CSR, compared with 41% of baby-boomers.

Jennifer Deal of the Centre for Creative Leadership, an executive-training outfit, and Alec Levenson of the University of Southern California studied 25,000 people in 22 countries and concluded that most generalisations about millennials as employees are “inconsistent at best and destructive at worst.” Consider the idea that they do not want to be told what to do. In a poll of 5,000 workers Ms Deal and Mr Levenson found that 41% of millennials agreed that “employees should do what their manager tells them, even when they can’t see the reason for it,” compared with 30% of baby-boomers and 30% of members of generation X (born between the mid-1960s and 1980). Or the idea that firms should communicate with digital natives through digital media. More than 90% of millennials said they wanted to receive their performance evaluations and to discuss their career plans face-to-face.

It would be going too far to say that there are no differences between the generations. There are variations in consumption patterns. Young people are much more likely to get their news from BuzzFeed than baby-boomers are. But these do not necessarily translate into different attitudes to work. Ms Deal notes that millennials who have been in a job for a couple of years have much more conventional attitudes to work than those of the same age who are still at university. Some differences in attitudes cross the generations. In CEB’s recent poll, 51% of millennials said they would look for a job at another organisation within the coming year compared with 37% of generation X-ers and 18% of baby-boomers. It also discovered that millennials are more likely to seek and value feedback from their managers than members of other generations are. But this is because they are still young, and not because of the particular generation they were born into. Young people in every generation change jobs more frequently than older people because they are looking for the right one. Young people also look for feedback because they are still learning the ropes.

De-generating into banality

Companies are right to be exercised about the millennial generation. Nothing is more important for a firm’s survival than recruiting and retaining the next wave of talent. But in their enthusiasm to embrace that generation, they risk swallowing a lot of snake oil. To get the most out of young workers, it may in fact be wiser to put less emphasis on collaboration and corporate do-goodery, and more on rewarding individual performance and providing clear paths to career progress. Companies need to recognise that individual differences are always bigger than generational differences. Every age group contains introverts and extroverts, high-flyers and low-riders. But they also need to recognise that human commonalities swamp both individual differences and generational variations. The most striking thing about the research data compiled by the likes of CEB and the Centre for Creative Leadership is how much workers of different generations have in common. They want roughly the same things regardless of when they were born: to be given interesting work to do, to be rewarded on the basis of their contributions and to be given the chance to work hard and get ahead. ■



Investment funds

Roaring ahead

Exchange-traded funds have overtaken hedge funds as an investment vehicle

IT IS a victory for the humble—for the investment equivalent of a puttering hatchback over a gleaming Porsche. The exchange-traded-fund (ETF) industry is now bigger than the more established business of hedge funds. Assets in the global ETF industry were \$2.971 trillion at the end of June, according to ETFGI, a research firm, \$2 billion ahead of the hedges' \$2.969 trillion, as calculated by Hedge Fund Research (see chart 1). In 1999 the ETF industry was less than a tenth the size of its ritzier rival.

ETFs are pooled funds, quoted on stockmarkets, that are designed to replicate the performance of an asset class. They usually do so by tracking a benchmark such as the S&P 500 (for American equities). Once the fund is set up, portfolio changes are mechanical, responding to changes in the underlying benchmark. Funds can track almost anything from the gold price to commercial property. Some have extremely low expenses: Vanguard's S&P 500 index tracker charges only a twentieth of a percentage point a year.

Although hedge funds also invest across a wide range of assets, they take a quite different approach. Using far more complicated strategies, they aim to offer investors a superior service: either a higher return than achieved by the benchmark or a better balance of risk and reward. Because they can sell short (bet on falling prices), they claim to prosper in all kinds of market conditions. In return for this so-

phistication, they demand higher fees: an annual charge of 2% or so and a performance fee of 15-20%, making their founders very rich indeed. Hedge funds aim to attract "the best and the brightest" managers to their industry; ETFs merely aim to be average.

ETFS target the mass market: the humblest retail investors can participate and could in theory put all their savings in ETFS. The hedge-fund industry has a narrower clientele: it targets the wealthy and big institutions such as pension funds and university endowments. It aims to manage just a small proportion of their portfolios.

Both ETFS and hedge funds have been growing at the expense of a much larger rival—the conventional fund-management

Also in this section

- 62 Buttonwood: The commodity slump
- 64 Moldova's imploding economy
- 64 Hard times in Turkey
- 65 A row about monetary policy in India
- 66 Brazil's deteriorating finances
- 67 Free exchange: How to help the poorest of the poor

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industry made up of mutual funds and specialist investors that pursue so-called "active" strategies in an attempt to beat the index. In the late 1990s, when Wall Street was surging thanks to the dotcom boom, conventional managers could generate impressive returns. Since 2000 there have been two bear markets in equities and bond yields have sunk to record lows; conventional managers have struggled.

In a world of reduced returns, the low costs of ETFS are more attractive. For the hedge-fund industry, in contrast, low returns are a problem. Most managers have to invest in the same equity and bond markets as everyone else. In the 1990s hedge funds enjoyed seven years of double-digit average returns. In the first decade of the 2000s, they managed three such years. In this decade, there has been just one.

Even when it comes to avoiding losses, the industry's record has deteriorated. There were no years of negative returns in the 1990s, but three since 2000. Hedge funds' reputation took a hit in 2008, when they lost a lot of money. On a rolling five-year basis, their returns have been disappointing (see chart 2).

Mastered by the universe



► The deteriorating performance is probably not a coincidence. Hedge funds sold themselves as clever and flexible enough to take advantage of opportunities that conventional fund managers neglected. But there may not be enough such opportunities for an industry with nearly \$3 trillion of assets to exploit.

As a result, hedge funds market themselves rather differently from the way they used to. In the 1990s, the heyday of managers like George Soros, the industry sold itself on its ability to generate outsize returns. Nowadays it talks of the ability to generate "risk-adjusted returns"—steadier

profits with less volatility. Where once they appealed largely to the rich, hedge funds now target institutions. A recent survey found that a majority of managers expect the bulk of their new money to come from pension funds over the next few years. Some pension funds use a "core-satellite model" in which the bulk of their money is in ETFs (and other low-cost funds that track indices) with the rest in specialist vehicles, including hedge funds and private equity.

Yet the steady return claimed by hedge funds can be replicated, or indeed beaten, with ETFs. S&P, an index provider, calculat-

ed the return over the past five years from a portfolio comprising 50% American bonds and 50% global equities. This portfolio easily outperformed the average return from hedge funds. S&P then deducted hedge-fund-style fees from the model portfolio; the result tracks hedge-fund returns very closely. It looks, in other words, as if hedge funds are a very expensive way of buying widely available assets. Last year CalPERS, California's public-sector pension fund, announced it was selling off its investments in hedge funds, citing both complexity and costs.

ETFs have also faced criticism. Jack ►

Buttonwood | Material difficulties

Falling commodity prices and emerging-market equities are bad omens for the world economy

FIVE years ago, two views were fairly common. The future belonged not to the sluggish, ageing advanced economies but to the emerging markets. Furthermore, those economies had such demand for raw materials that a "commodity supercycle" was well under way and would last for years.

Commodity prices peaked in 2011, and have been heading remorselessly downwards ever since. Their decline of more than 40% so far is a huge bear market; had it happened in equities, the talk would be of calamity and collapse.

News coverage in the Western media tends to view the decline in commodity prices as a benign phenomenon, as indeed it is for countries that are net importers. But it is not good for commodity exporters, many of which are emerging markets. That helps explain why emerging-market equities have had only one positive year since 2011, and have underperformed their rich-country counterparts by a significant margin in recent years (see chart). The latest sign of trouble came in China, where the Shanghai Composite fell by 8.5% on July 27th.

The growth rate of emerging economies is likely to slow in 2015 for the fifth consecutive year, according to the IMF. Of the BRICS, Brazil and Russia will see their output decline this year, while China is slowing. Only the Indian economy is set to accelerate. Developing economies were boosted in the first decade of the 21st century by the rapid expansion of Chinese demand, as the world's most populous country underwent an investment boom. This was good news for commodity exporters; China comprises almost half of global demand for industrial metals. But the fall in commodity prices indicates that Chinese demand has slowed in recent years. It also shows that high prices



did their job, by bringing forth new sources of supply, such as shale oil and gas.

At the same time, China has shifted its manufacturing industry from the assembly of components made abroad to the creation of finished products from scratch. This has hit other Asian economies. Emerging-market exports are down 14% over the past year in dollar terms. In terms of volume, they continued to grow, but only by 1%, according to Capital Economics. Such anaemic growth is becoming a trend. World trade, which was expanding faster than global GDP before the financial crisis, is no longer even keeping pace: last year, it grew by 3.2% while GDP advanced 3.4%.

China's investment boom may also have created a problem of overcapacity in manufacturing, leading to pressure on profit margins in the corporate sector. The latest figures show that the profits of China's industrial companies were 0.7% lower in the first half of the year than in the same period of 2014. Chinese producer prices dropped by 4.8% at an annual rate in June, the 40th consecutive month of decline. The effect may be spreading to Asian competitors: the purchasing managers' indices

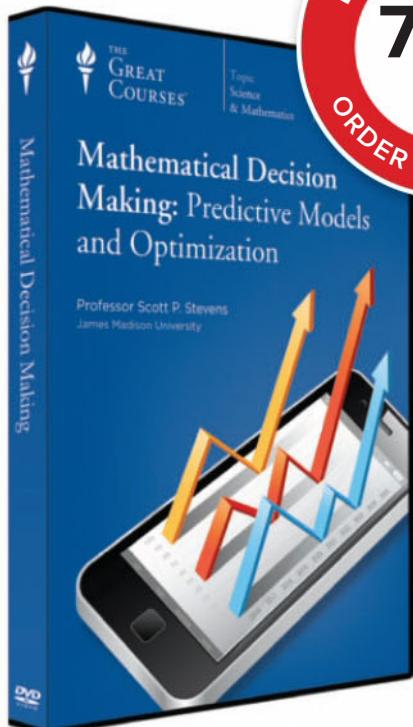
for the manufacturing sector in Indonesia, South Korea and Taiwan all pointed to declines in output in June.

The big question is whether this weakness tells us anything about the global economy. Will the Federal Reserve be acting unwisely if it pushes up interest rates later this year, as markets concluded it would after its meeting this week? On July 9th the IMF cut its forecast for global growth this year from 3.5% to 3.3%. That would be only marginally lower than last year's rate of 3.4%, but it would still be the most sluggish performance since 2009.

Government bond yields are another indicator of economic sentiment. When they decline, it is a sign that investors are worried about the outlook for growth. Although ten-year yields have recovered from their lows of late January, they are still well down on their levels of a year ago—half a point or so lower in the case of Canada and much of Europe.

Given the background, this does not seem the most obvious time for the world's leading central bank to be tightening monetary policy. Of course, the Fed is supposed to focus on domestic conditions, not the international environment. But higher American rates will probably mean a stronger dollar, and thus tighter monetary policy for countries that peg their currencies to the greenback. And it will create a problem for economies with lots of dollar debt. Several emerging-market currencies are already at multi-year or record lows.

The hope is that the signs of a slowdown will prove mistaken. The IMF expects both the global growth rate and that of emerging economies to pick up in 2016. Perhaps it will be right. Unfortunately, it has often been over-optimistic in the past.



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► Bogle, the founder of Vanguard, an index-tracking firm, has argued that the ease of dealing in the funds may cause retail investors to trade too much, switching in and out of asset classes in a vain attempt to time the markets. A more widespread concern relates to liquidity. All ETFs allow investors to redeem their holdings instantly, but some of the assets they own, such as corporate bonds, trade infrequently. They thus face a potential problem if prices fall sharply and a lot of investors want to sell at once. That might force them to delay or limit redemptions (imposing "gates", in the jargon). Some see this as the trigger for the next market crisis.

The industry's defenders argue that the sector got through the 2008 downturn without a problem. Alan Miller, who used to run a hedge fund but now manages assets for individuals at SCM Direct, which specialises in ETFs, points out that "ETFs have been tested in a lot of market environments and not a single one has failed."

Short of a calamitous collapse at an individual fund, the ETF industry is likely to keep on growing. Ten years from now, it may be double or treble the size of the hedge-fund sector. The race is not always to the cheap, but that's the way to bet. ■

Moldova's economy

Gutted

A banking scandal is set to bankrupt Europe's poorest country

WHEN Alina, a Moldovan student, had her bank card rejected by a cash machine last week, her first thought was to wonder whether the bank had quietly gone under. Happily, the cause was a fleeting technical glitch—but her reaction was not far-fetched. The country's financial system is limping badly. In November, thieves stole \$1 billion from Moldova's three biggest banks through a series of fraudulent loans and transfers. Moldova, sandwiched between Romania and Ukraine, is the poorest country in Europe; the theft amounted to more than an eighth of GDP. It has set in train a series of events that will leave the government unable to pay salaries by the end of the summer, according to the recently departed finance minister.

The fraud left the three banks insolvent, so the National Bank of Moldova, the central bank, has taken them over, injecting 12.5 billion Moldovan lei (\$660m) in new capital. It did not have such a sum to hand, however—it had to create it. The huge expansion of the money supply caused inflation to double to 8% and the currency to drop. It has fallen by 20% against the dollar



In happier times

this year.

In response to the jump in inflation, the central bank began raising its benchmark interest rate sharply. It has vaulted from 8.5% in January to 15.5% now. That, along with the addled state of the banks, is causing businesses to rein in their investments.

It does not help that Russia, one of Moldova's biggest trading partners and source of almost \$800m in remittances from Moldovan workers last year, is facing an economic crisis. Russia's recession has caused Moldova's GDP growth to fall by 4.6 percentage points, the World Bank reckons. That accounts for a big part of the economy's reversal from growth of 5% in 2014 to a contraction projected at 2% this year.

In addition to all these disasters, the country is in the grip of political upheaval. The prime minister, Chiril Gaburici, resigned in June after state prosecutors and fellow politicians accused him of forging his high-school diploma. A replacement was only agreed this week.

Meanwhile, many of the foreign countries and international agencies that bankroll Moldova's government say they are suspending assistance until it gets to grips with corruption and mismanagement in the financial sector. The European Union was the most recent donor to pull out, announcing on July 5th that it was freezing its €40m (\$44m) aid programme. The World Bank has stipulated that it will resume lending only if the three stricken banks are closed, since it considers them open targets for future fraud, even in the hands of the central bank.

The government relies on concessionary loans and aid to plug its deficit, which is projected to be 7% of GDP this year. The loss of tax revenue caused by the recession will only make the shortfall grow. The government has slashed spending, disbursing 20% less than planned in the first five months of the year and freezing all investment projects from July. Two public hospi-

tals in the capital, Chisinau, briefly closed all departments except emergency services and surgery earlier this year. Suspending basic services, however, will only exacerbate Moldova's problems.

It is not clear that the country's political elite has much interest in sorting out this mess. It was not until April that much information about the bank scandal became public, after the speaker of parliament leaked a report on the crime by Kroll, a security firm. The judiciary is not strong enough to clamp down on corruption. A week before Mr Gaburici stepped down, he called for the chief prosecutor to resign over his failure to act on the bank scandal.

"The heist was obviously covered up," says Francis Malige of the European Bank of Reconstruction and Development (EBRD). The EBRD recently tried to buy a majority stake in Victoriabank, one of the largest remaining private banks, to try to ensure a continued flow of lending to local businesses; the parliament inexplicably blocked the acquisition.

Moldova's fortunes do not need to be so grim, says Alex Kremer of the World Bank's local office. It has a long border with the EU, and an extremely competitive average monthly wage of just over €200. "This should be a booming export economy," he says. "If they sort out the governance and corruption, it will be." ■

Turkey's economy

Flightless

ANKARA AND ISTANBUL

Political worries increase the fragility of an economy badly in need of reform

THERE is much to make investors jittery about Turkey. It is becoming ever more involved in the chaos in neighbouring Syria (see page 42). The Kurdish insurgency in the east of the country appears to have restarted. Politicians are still wrangling over a coalition after an indecisive election in June. The country may be in for a period of unstable, short-lived government or even a fresh election. Worse, Turkey has long been identified as one of the most vulnerable emerging markets, with slowing growth, a large current-account deficit and high corporate dollar-denominated debt. It is little wonder that the lira has been one of the world's weakest currencies this year.

Fans of the Justice and Development (AK) party and its longtime leader (now president), Recep Tayyip Erdogan, like to boast of its stellar economic record since first forming a government in 2002. It is true that, after the bumpy 1990s and the humiliating bust of 2001, which ended in an IMF bail-out, AK presided over a decade ►

► of strong growth with relatively low inflation. The banks are solid and well-capitalised, foreign investment has soared and Turkey has acquired an investment-grade credit rating from some agencies. The country is this year's chair of the G20, a club of big economies, and Mr Erdogan wants it to be one of the world's ten biggest economies by 2023 (it is 18th now).

Yet a closer examination finds AK's record far less shiny. During its time in government, economic growth has been, at best, middling by emerging-market standards. It has recently slowed sharply: GDP is expected to expand by barely 3% this year after only 2.9% growth in 2014 (see chart). Thanks partly to the tumbling lira, inflation is stuck at around 8%. Unemployment, at almost 10%, remains high. Turkey's consumer-confidence index recently touched a six-year low.

Turkey's external position also makes it peculiarly vulnerable. The combination of low saving and high investment means that it has long run a large current-account deficit: in 2014 it was, at 6% of GDP, proportionately the biggest in the OECD, a club mostly of rich countries. Dani Rodrik, an economist at Harvard University, points to what he calls the deteriorating quality of Turkish growth. Over recent years, any given level of growth has been associated with a rising current-account deficit, not a falling one.

Foreign-currency borrowing in Turkey is high and rising, especially among non-financial businesses. The economy's total external financing needs are now put at around \$200 billion a year. According to the IMF, the foreign debts of banks and other companies shot up from around 5% of GDP in 2008 to 18% of GDP in 2013. With the lira's fall making such loans more expensive to service, these numbers are worryingly high.

Some investors take comfort from Turkey's robust public finances, in contrast to the 1990s (and to neighbouring Greece). Public-sector debt has fallen from 80% of GDP in 2001 to only 33% today. Yet it is not the public sector that is the problem. The fear that the private sector's borrowing



New dawn, gathering clouds

binge will lead to a crisis is exacerbated by the prospect of higher interest rates in America, expected as soon as September. That is likely to draw capital away from emerging markets.

These worries are heightened by a loss of faith in Turkish institutions. When the central bank began raising interest rates in early 2014, Mr Erdogan attacked it for being part of the "interest-rate lobby". He insists that high interest rates cause inflation, not the other way round. A perceived weakening of the rule of law also makes it hard to attract foreign investors. Earlier this year the head of the Turkish employers' federation roused Mr Erdogan's ire by saying, "A country where the rule of law is ignored, where the independence of regulatory institutions is tainted, where companies are pressured through tax penalties and other punishments, where rules on tenders are changed regularly, is not a fit country for foreign capital."

The slump in Turkish growth is not just a short-term or cyclical problem. As one London-based analyst argues, it is structural, reflecting domestic as well as external imbalances. Turkish savings are too low. Regulation is excessive: Turkey comes bottom of the OECD league for product-market regulation. In the World Bank's rankings for ease of doing business, Turkey comes 136th for building permits, 79th for starting a new business and 109th for resolving insolvency. Labour-market participation is low, especially among women, for whom it has actually fallen under AK's tenure. Turkey has no technology industry to speak of and spends little on research and development. Many economists reckon it is caught in a middle-income trap, from which it can escape only through substantial structural reforms.

Sadly, none of the parties jostling for a

place in government seems interested in that. Under AK, investors were reassured by the presence of the experienced Ali Babacan as a deputy prime minister in charge of the economy, but he is stepping down. Some hope for a return of the man who, with the IMF's help, rescued Turkey in 2001: Kemal Dervis. That would depend on AK forming a coalition with the main opposition Republic People's Party (CHP), but it has not yet settled on a partner. The jitters seem likely to last. ■

Monetary policy in India

Rajan in chains

MUMBAI

A proposal for a new rate-setting committee sparks a row

A FEW years ago, when Alan Greenspan was boss of the Federal Reserve, a central banker in Europe remarked how much he disliked it when he saw a headline such as "Greenspan cuts rates". The Fed's standing was hurt by such a personalisation of its policymaking, he explained. After all, it is actually all 12 members of the Federal Open Market Committee (FOMC) who decide America's interest rates, not just its chairman.

In India the Reserve Bank of India (RBI) and its present governor, Raghuram Rajan, are as closely entwined in the popular mind as the Fed was with Mr Greenspan. Yet on July 23rd the government published an external commission's draft of a new financial code, which would reduce Mr Rajan's authority over interest rates. It proposes to set up a new monetary-policy

AKupuncture



► committee (MPC) with seven members: four government appointees, the governor of the RBI and two other representatives of the central bank.

The proposal was immediately condemned as an assault on the RBI's independence, but the reality is more nuanced. Unlike the Fed, the RBI is not technically independent. The governor has the authority to set interest rates although, under the RBI Act of 1934, he would be obliged to change them if the government ordered him to. An advisory committee weighs in on his decisions, but it is largely ignored.

The RBI has credibility because of the standing in financial markets of Mr Rajan, a former chief economist of the IMF. A government hoping for cheap money to boost its popularity would not find him easy to push around. The stockmarket and the rupee would plummet if it ever seemed that anyone was trying.

By the time Mr Rajan took charge in 2013, no one was terribly sure what guided India's monetary policy. Was it output growth? The wholesale-price index? The weather? Mr Rajan moved quickly to establish a clear framework. A commission chaired by Urjit Patel, a deputy governor, recommended last year that the RBI should eventually aim for inflation of 4%, with a target range of 2%-6%. A five-strong MPC, comprised of three RBI officials and two outsiders, would be tasked with meeting this goal. In the meantime the RBI should aim to bring inflation below 6%, the commission recommended.

In March the finance ministry gave its explicit blessing to a 4% inflation target from next year. But it suspended judgment on the MPC. So when the ministry published the draft code on its website, it looked as if the government was seeking to retain (or regain) control over interest rates.

Yet the draft does not argue for an MPC packed with government stooges. It says the four external members should be chosen from a list drawn up by a selection committee of independent experts. The way that members voted, and why, would be a matter of public record within a fortnight of a decision on interest rates.

There is no consensus about the ideal composition of a rate-setting committee. Many, including Britain's, have external members. Members are also often subject to political vetting of some sort: seven of the 12 voting members of the FOMC, for instance, are appointed by the president and confirmed by the Senate. Even when members from within the central bank command a majority, as at the Bank of England, the boss can still be overruled. That happened several times during the governorship of Mervyn King, for example.

There is a consensus, however, that a committee is superior to one-man rule. In 2000 Alan Blinder, who served on the FOMC, and John Morgan, a colleague at

Brazil's finances

The vanishing surplus

SÃO PAULO

A loosening of fiscal targets elicits a predictable response

WHEN Brazil won an investment-grade credit rating in 2008, Luiz Inácio Lula da Silva, the then president, compared its earlier, junk-rated incarnation to a ne'er-do-well who spends twice as much as he earns, mainly on gambling and booze. Henceforth, the president crowded in typically folksy fashion, Brazil would be a respectable worker who "looks after the family". Yet under Lula's protégée and successor, Dilma Rousseff, Brazil risks falling off the wagon.

On July 28th Standard & Poor's, a rating agency, said the country may lose its cherished status if it doesn't sober up. The warning was precipitated by the government's decision last week to lower its targets for primary surpluses (ie, before debt-service costs) for 2015-18. The goal for this year and next shrank from 1.1% and 2% of GDP, respectively, to 0.15% and 0.7%. The target for 2017 was cut from 2% to 1.3%, even though the IMF had recently suggested that it ought to go up to 2.5%. "The government seems to have thrown in the towel on the fiscal adjustment," complains one investment

banker. The other big rating agencies are expected to follow S&P's lead soon.

The central bank had been hoping to start cutting rates soon. The fiscal backsliding has made that impossible: on July 29th it raised rates instead by half a percentage point (the sixth such rise in a row), to 14.25%.

Joaquim Levy, the hawkish finance minister, insists that the relaxed targets do not amount to surrender, merely a tactical retreat. Output is falling faster than hoped, ministers explained, weighing down tax receipts; they now expect to collect 122.5 billion reais (\$37 billion) less this year than first thought.

Mr Levy plans to boost revenues with one-offs such as the sale of infrastructure concessions, a few (timid) privatisations and a tax amnesty for repatriated profits. But if growth does not pick up—and there is no sign that it will—gross public debt will exceed 70% of GDP by 2018, reckon analysts at BNP Paribas. That is inconsistent with an investment grade, given Brazil's hefty interest bill, says Mansueto Almeida, a public-finance expert. Retaining that rating requires an overhaul of benefits, public pensions and other fixed spending, which account for some 80% of the budget but are politically sacred.

Markets appear to share S&P's view. The price of insuring Brazil's government bonds against default shot up in the wake of last week's announcement. It is now higher than for Turkish bonds, which S&P rates as junk. The real has weakened by 3.9% against the dollar in one week.

S&P is at pains to stress that its shift is not tantamount to a downgrade. India spent two years on a similar negative watch before returning to a stable outlook, it notes. Mr Levy and the central bank have been making some progress (the current-account deficit has narrowed; inflation expectations have subsided). S&P's warning may yet concentrate minds in Brazil's government. But fear of a relapse is rising.



The end of the festa

Princeton University, published a paper based on the results of students playing a simple monetary-policy game. They found that committees made better decisions than individuals. A subsequent Bank of England study along similar lines came to the same conclusion.

Nonetheless, the furore in India has been so great that finance-ministry bigwigs have hastily declared that the government will not necessarily adopt the draft

code in full. Such is the deference that Mr Rajan commands. Agreement on the creation and make-up of India's committee, it seems, is still far away. Meanwhile a decision on interest rates, which have been lowered in three steps from 8% to 7.25% this year, is scheduled for August 4th. Most economists expect no change. But there is an outside chance that the headlines on the morning of August 5th will declare, "Rajan cuts rates". ■

Free exchange | Graduating from destitution

A multi-country study comes up with a universal method to help the very poor



THE poor do not just lack money. They are also often short of basic know-how, the support of functioning institutions and faith in their own abilities. As a result, note Abhijit Banerjee and Esther Duflo of the Massachusetts Institute of Technology in their book, "Poor Economics", published in 2004, it takes "that much more skill, willpower and commitment" for the poor to get ahead. No wonder escaping extreme poverty—usually defined as living on less than \$1.25 a day—is so hard.

Even the most successful schemes to lift (and keep) people out of dire poverty seem to work only for some people, in some places, some of the time. For example, microcredit works best for the relatively enterprising, who are rarely the very poorest. Similarly, cash transfers linked to school attendance are useful, but require a working education system. What succeeds in one country may fail elsewhere, thanks to different conditions and cultural norms. And the poorest are often the hardest to help.

This dispiriting picture makes a new paper* by Mr Banerjee, Ms Duflo and several others all the more striking. It claims to have identified an anti-poverty strategy that works consistently, based on a seven-year, six-country study of more than 10,000 poor households. The secret, the economists argue, is to hand out assets, followed by several months of cash transfers, followed by as much as two years of training and encouragement. That formula seems to have made a lasting difference to the lives of the very poorest in countries as different as Ghana, Pakistan and Peru.

BRAC, a big Bangladeshi NGO that originally came up with this approach to tackle abject poverty, calls it a "graduation programme". Given the many problems of the poor, the logic runs, it is useless to apply a sticking plaster to one while leaving the others to fester. For example, various NGOs, including Heifer International, Oxfam and World Vision, give cows, goats or chickens to poor people in developing countries, to enable them to earn an income selling milk or eggs. But what if the recipients are so hungry that they end up eating their putative meal ticket?

BRAC's idea was to give those in the graduation programme not just chickens but also training on how to keep them, temporary income support to help them to resist the inevitable temptation to eat them, and repeated visits from programme workers to reinforce the training and bolster participants' confidence. The

economists studied schemes along these lines run by local NGOs in Ethiopia, Ghana, Honduras, India, Pakistan and Peru. The programmes all targeted the very poor: as many as 73% of participants in India and 66% in Ethiopia lived on less than \$1.25 a day.

In all six places households in the programme chose an asset, typically livestock, as a one-off gift. In addition, they received enough money to buy a kilo of rice a day for as long as a year. They were given training not just on how to exploit their chosen asset, but also on keeping themselves healthy. Lastly, the NGO provided a safe way to save money, along with encouragement to do so. Although some details, such as the type of livestock people received, or the emphasis placed on saving money, varied from country to country, the nub of all six schemes was the same.

The results were promising. At the end of the programmes, roughly two years after participants first enrolled, their monthly consumption of food had risen by around 5% relative to a control group. Household income had also risen, and fewer people reported going to bed hungry than in control households. The value of participants' assets had increased by 15%, which suggests that they had not improved their diets by eating their chickens. Rather, each person in the programme spent an average of 17.5 more minutes a day working, mostly tending to livestock—10% more than their peers. (The impact did still vary by country, being weakest in Honduras and Peru and strongest in Ethiopia.) Even more striking, the programme had strong, lasting effects on consumption and asset values even for the poorest tenth of households it reached—the poorest of the poor.

Perhaps most important, when the researchers went back and surveyed households a year after the programme had ended, they found that people were still working, earning and eating more. Were these gains to persist even longer—as they have in Bangladesh, where another study has been able to track people an additional year down the road—the researchers reckon that the graduation programme would have benefits of between 1.33 and 4.33 times what was spent on it. (The only exception is Honduras, where it did not break even, in part because the chickens that many people chose to receive kept dying.)

Not chicken feed

The costs of the schemes, which varied from \$414 per participant in India to \$3,122 in Peru, look daunting. But the help is intended as a one-off, whereas many anti-poverty drives in the developing world are never-ending. That makes graduation programmes cheaper than many of the alternatives. India, for example, spends about 0.3% of GDP every year on a workfare programme that reaches about 50m households. Reaching the same number of households through a graduation programme would be a one-off cost of about 1% of GDP.

Besides, it might be possible to achieve the same effect more cheaply. For one thing, it is not clear that all the elements of the programme are necessary. A recent study of a similar scheme targeting the very poor in Uganda found that more frequent home visits bring little extra benefit. This is the most expensive part of the programme, costing twice as much on average as the direct transfers. It could perhaps be eliminated or curtailed. Even as it is, the blight of abject poverty looks a little less intractable. ■

* Studies cited in this article can be found at www.economist.com/graduation15



Programming for four-year-olds

No assembler required

BOSTON

How to teach computer science in nursery school

COMPUTING has always been a youngster's game. The founders of Apple, Facebook, Google and Microsoft were in their teens or 20s when they started the businesses that made their fortunes. But even by the standards of Messrs Jobs, Zuckerberg, Brin, Page, Gates et al, the code jockeys of a programming language called KIBO are wet behind the ears.

KIBO is designed for those aged four to seven. Instead of arranging, as an older programmer might, a set of constants, variables, operations and expressions, all written in something resembling English, into a logical sequence, a KIBO programmer arranges wooden blocks that carry stickers bearing symbols. These symbols tell a plastic robot what to do next. A straight arrow means "move ahead by one foot". A curved one means "turn in the direction in which the arrow is pointing". Two semicircular arrows pointing towards each other's tails means "perform the previous instruction again"—a command that is particularly important, because it introduces neophytes to the concept of recursion.

For more complicated commands, such as "shine a light", "make a noise" or "wait here until I clap before moving again", KIBO offers a library of subroutines that a fledgling programmer can call on, just as a grown-up might. And because programs written in languages used by grown-ups usually have specific "begin" and "end" in-

structions, a block bearing a big green dot means "start" and one with a big red dot means "finish".

To compile and execute a newly written KIBO program, all the junior software engineer must do is lift the robot up and scan it along the row of blocks (see picture above), so that it can read bar codes on the labels. These tell it what symbols those blocks carry. Then, placed on the floor, the robot is off—to attack the family pet or cause whatever other mayhem has entered the mind of the programmer.

Wheels on fire

KIBO is thus an entertaining toy. But it is also a toy with a purpose. This is to increase the supply of people who are genuinely computer-literate—for, despite what they may think about themselves, most so-called digital natives of the internet generation are not. They are, it is true, whizzes at operating the devices technologists have thrown at them, but few have much idea what is going on under the bonnet.

Many parents and teachers want to change this, by encouraging children to learn how to program at the same time as they are learning how to read and write, and add and subtract. Some governments, such as those of Britain, Estonia and Finland, are making programming part of the school curriculum. KIBO, brainchild of Marina Umaschi Bers, a psychologist at

Also in this section

- 69 Farewell to Pluto
- 69 Hunting bugs for a living
- 70 Power from waste heat

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Tufts University, near Boston, is the logical conclusion of this train of thought. Its aim is to engender computer literacy in children who are still at nursery school.

Dr Umaschi Bers is not alone in that quest. KIBO, made by KinderLab Robotics (of which she is chief science officer when she is not doing her day job), is unusual only in that its instruction set is so tied to physical objects. Other toys being developed to teach young children the rudiments of programming use not wooden blocks but blocks of code, presented as icons of various sorts on the screens of tablets, smartphones and even old-fashioned PCs. Instead of being scanned, these instructions are uploaded wirelessly to the robots they are intended to control—robots that come in all sorts of shapes and sizes.

Some, like Vortex (a wheeled device that resembles a flattened motorcycle helmet) and Dash (a tetrahedron of spheres which, besides moving around at its programmer's command, can also play tunes on a glockenspiel), are, like KIBO, designed mainly to scuttle across the living-room floor. Others, though, are heading in a different direction.

One such is Hackaball, which is being developed by two firms, Made By Many, and Map, that are based in London. Hackaball is an actual ball, made of rubber and silicone, and 10cm (4 inches) in diameter. Its contents, including solid-state lights of various colours, a motion detector, a microphone and a loudspeaker, are held in a springy silicone housing that acts as a shock absorber. This means the ball can be thrown against walls and floors without damaging the hardware inside it.

Hackaball acts as a *tabula rasa* on which a programmer can write whatever comes into his imagination. In tests, one group of children used it to play Truth or

► Dare, based on the colour it turned when it was thrown and caught. Another lot invented Bomb Detector, a game like Pass the Parcel in which the smallest shake would cause the ball to vibrate, meaning that player who had shaken it was out. A more practical child, meanwhile, programmed a Hackaball to be an alarm clock, vibrating and making noise at a preset time.

Starting from Scratch

Toys like Vortex, Dash and Hackaball use a variety of programming languages to encode the instructions that control them. These include Scratch, Blockly, Hopscotch and WeDo. Some of these languages are proprietary (WeDo, for instance, belongs to Lego). Others are not. All have in common, though, a rejection of the vexing, obscure delimiters of syntax, such as brackets and semicolons, that litter the code of more conventional languages.

The oldest of the group, and the one that inspired the others, is Scratch. This was developed in 2005, by Mitchel Resnick of the Massachusetts Institute of Technology (MIT). It was given a makeover in 2013—and then, in 2014, released in a simplified version called Scratch Jr.

The result is a crucial bridge by which an infant programmer can cross from the physical world of controlling toys to the virtual one of controlling cyberspace. Scratch can be, and is, used to run robots. But it also encourages its users to create animations and games that manipulate pixels on a screen rather than objects on the floor.

A Scratch programmer can thus design and animate an icon called a sprite (a smiling cat that walks like a human being is a popular choice for beginners), and send it on adventures. The programmer chooses, from a set of menus, coloured blocks that

represent various subroutines. He then drags them, with finger or mouse, across the screen to assemble them in the order he wishes. "Motion" subroutines tell the sprite how and where to move. "Looks" subroutines regulate its shape and colour. "Sound" subroutines give it voice. "Control" subroutines govern things such as recursion, causing it to repeat an action. "Events" subroutines include the start and stop commands. And so on.

Scratch Jr, which has been given a restricted set of subroutines and uses only positive integers for counting (because young children have difficulty with the concept of negative numbers) has proved particularly popular. In the 12 months since its release, 1m copies of it have been downloaded. But Hopscotch (which also has a restricted set of subroutines) and Blockly (which, unlike Scratch, is fully open-source, and can thus have its underlying code tweaked by more advanced programmers) are also doing well.

For proponents of early computer literacy this all looks encouraging. It does, though, remain to be seen whether it will turn out to be a fad—for this is not the first time the gospel of child-friendly computing has been preached.

In 1967 Seymour Papert, a researcher at MIT who went on to teach Dr Umaschi Bers and Dr Resnick, created a programming language called Logo that could be used to control a turtle-shaped robot. Logo prospered for a while but has now more or less faded from view. Probably, it was an idea ahead of its time as, in the 1960s and 70s, computers were still exotic creations with which mere mortals rarely interacted during their daily lives. These days, however, the risk is precisely the reverse. Computers have become quotidian, and also so

reliable that, for most people, the idea of programming one might seem as bizarre as that of servicing one's own refrigerator or washing machine.

Whether KIBO and the other programming languages will do the job their inventors intended thus remains to be seen. Cynics might ask, when all is said and done, who actually needs to know how a computer works? But if the world's first software trillionaire, sometime in the early 2030s, fondly recalls her childhood japes waking up the family dog by teasing it with a wheeled robot which she had programmed for the purpose, remember that you read it here first. ■

Information security

The big bug hunt

It is too easy to hack into websites, but some people do so to make it harder

“**I**T CAN be kind of addictive,” says Emily Stark, a Californian engineer who started looking for bugs in websites in her evenings after work. “There’s a lot of low-hanging fruit out there.”

There are also a lot of Emily Starks out there, for anyone with a computer and a penchant for puzzles can be a bughunter. You learn the basics from online guides and discussion forums, and practise on websites built to be broken into, such as Google Gruyere, which gives hackers a training ground. Ms Stark earned a tidy sum reporting bugs to Twitter, Square, Slack, WePay and Coinbase. She got so good at it that Google recruited her, and she now has a full-time job in the firm’s security division. But Google also offers opportunities for those who wish to stay freelance. Its bug-bounty programme pays anything from \$500 for spotting a minor security error to \$50,000 for breaking into a Google-made laptop.

For Ms Stark, in her freelance days, a typical session began as it would start for many bughunters. She would pick a promising website and enumerate the ways in which users could engage with and change it, for these are the points of vulnerability—and, in her experience, few websites get every part of their user-authentication procedures right.

After someone logs in to his bank account, for example, his browser sends the bank’s server some information to identify who he is. This is the online equivalent of a customer in person showing a bank clerk an identity card. However, unlike a bank clerk, a web server cannot easily keep track of who a visitor is. It has to ask to see the user’s ID every time he loads a new page or ►►

Hail and farewell

This picture of Pluto’s atmosphere, backlit by the sun, is a Parthian shot of the place taken on July 15th (but transmitted to Earth a week later) by New Horizons, NASA’s probe to the dwarf planet. It is a last, backward glance as the spacecraft hurtles away into the Kuiper belt of frozen asteroids that lies beyond the part of the solar system inhabited by planets. New Horizons’ mission has been a revelation. The Pluto it portrays is a russet-pink body of mountains kilometres high, of giant icy plains and of glaciers of frozen nitrogen. Altogether, the craft has been able to photograph about half of Pluto’s surface in reasonable detail, recording features as little as 1km across. What the other half looks like will remain a mystery for a long time. No future mission is planned and, for a telescope in orbit around Earth to achieve a resolution equivalent to that of New Horizons’ cameras, it would need a main mirror 3km across. ■





refreshes an old one. To save the user's time and sanity, his browser therefore stores this ID in a small file called a cookie.

To be secure, the browser should offer the contents of the cookie only in response to requests that come from the bank's website. It should certainly not show it to other websites. The bughunter's job, in this case, is to coax it to do so.

One way to attempt this is to sneak a series of commands, known as a script, into the user's browser. To get access to the user's ID cookie, the script will have to pretend it is coming from the bank's website. A bughunter may thus, for example, try to implant a script into that website by entering it into a badly designed web forum as a comment. When a comment (any comment) is entered into such a forum, it is automatically embedded into a new page on the website. Instead of posting an innocent comment, the bughunter will submit a script that tells the browser of anyone subsequently looking at that page to send details of his user-ID cookie to the bughunter. Visitors to that forum page will thus have their ID stolen. This form of hacking is called "cross-site scripting". It accounts for 80% of website-security problems according to High-Tech Bridge, a computer-security firm.

Since cross-site scripting involves browsers and websites, those at highest risk from bugs are browsermakers like Google, and the makers of websites that store users' details, such as Facebook. Hence Google's bounty programme, and hence also the fact that Facebook has paid out, over the years, some \$3m in bounties.

Not surprisingly, bughunters are starting to band together and firms are springing up. One such, Bugcrowd, has 19,000 active hunters on its books, 30% of whom are based in India. The lower cost of living there than in, say, California means freelance bughunting can be a sensible career, not just a source of pin money. It also lets

Generating power from waste heat

Hot stuff

A sprinkling of graphene may conjure a long-sought material into existence

ANY sufficiently advanced technology, as Arthur C. Clarke once observed, is indistinguishable from magic. And one that seems routinely to be ascribed magical properties is graphene. It has been proposed for the manufacture of transistors and light bulbs, as a replacement for bone and a way of delivering drugs, for storing power and for transmitting it, and for lubricating things and waterproofing them. Its latest suggested role, though, is to help turn heat directly into electricity.

The Seebeck effect, first seen in 1821 by a German physicist of that name, is a property of some materials whereby heating part of an object made of that material drives electrons from the hot part to the cold part, creating a current. Generating electricity from heat in this way will never substitute for creating it in a power station specially designed for the purpose but it might, some believe, permit the exploitation of heat that would otherwise go to waste—that produced by car engines, for example; or, indeed, by the power station itself.

The problem is that materials which exhibit a strong enough Seebeck effect to be potentially useful do so only in narrow temperature ranges. One promising candidate is strontium titanium oxide—but it exhibits the effect only when it is heated to between 700° and 750°C. However, two materials scientists, Robert Freer and Ian Kinloch, who work at Manchester University, in Britain, suspected they might be able to extend that range by adding graphene—which, not coincidentally, was discovered at Manchester in 2003. As they report in *Applied Materials and Interfaces*, they think they have succeeded.

To exhibit a strong Seebeck effect, a

hackers strut their stuff in an environment where foreign computer firms may notice their talent.

Bughunting is not all sweetness and light, of course. Some hunters, and even some bughunting firms, sell to the highest bidder regardless, especially if the firm whose weakness they have discovered has no formal bounty programme. Hacking Team, an Italian company, has come under fire from a member of the European Parliament for allegedly aiding espionage by oppressive regimes. In an ironic twist, the firm had its own data hacked in July. These data suggested it had received millions of dollars in fees from governments that included Russia's and Sudan's.

material must conduct electricity well while conducting heat badly. Unfortunately, these properties rarely coincide. Good electrical conductors usually conduct heat, too, whereas electrical insulators are generally thermal insulators.

Oxides tend to the insulator end of the spectrum, but Dr Freer and Dr Kinloch wonder whether by adding graphene, which is an exceptionally good conductor of electricity, they might be able to decouple the two in the case of strontium titanium oxide. Previous experiments with this substance suggested that adding lanthanum could help improve its electrical conductivity. Conversely, removing a few oxygen atoms from its crystal structure could disrupt heat flow. Even with these adjustments, however, the result performed properly only between 500° and 750°C.

Adding graphene to the mix as well made all the difference. By tinkering, Dr Freer and Dr Kinloch found that the optimal proportion is 0.6%. This creates a material which has a working range that stretches from room temperature to 750°C, and converts up to 5% of the supplied heat into electricity. That is not a fabulous conversion rate. But it compares favourably with the 1% of pure strontium titanium oxide—and, in any case, this first mixture is just a ranging shot.

The search is therefore on for things that can do better. Considering that the average vehicle wastes roughly 70% of the energy supplied by its fuel, something may not have to perform hugely better to provide a useful supplement to a car's electricity supply. In future, maybe, waste heat from the engine will run the air conditioning—all thanks to the pixie dust of graphene.

Even being a good guy, though, can be hard. As one understandably anonymous hacker put it, "If I were to ask a company without a bounty programme for compensation, it could easily be considered extortion." Nor is it clear that the authorities understand the value of honest hackers. The Wassenaar Arrangement, an international pact to regulate the export of weapons, includes a provision that "intrusion software" cannot be transferred across a border without a licence. On July 20th Google stated its opposition to America's implementation of the agreement, since this would limit the transfer of hacking software used by its bughunters, thus disarming Ms Stark's successors. ■

Banking history

Goldenballs

Not for nothing was Jacob Fugger known as "Jacob the Rich"

ALBRECHT DÜRER'S portrait of Jacob Fugger shows a man with thin lips and unforgiving eyes. He wears a fine fur tippet about his shoulders and a brown cap; for the time, his dress is strikingly plain. Greg Steinmetz, formerly a journalist with the *Wall Street Journal* and now a securities analyst in New York, declares that he was the most influential businessman who ever lived. He makes a better case for this extravagant claim than for his assertion that Fugger was also the richest man in history.

A late-medieval banker from Augsburg in southern Germany, Fugger has never been as celebrated as Cosimo de Medici and his Florentine sons and cousins, whose reputation as bankers was burnished by their excellent taste in Renaissance art. But Fugger was the better banker. Were he alive today, he would have cut a swathe through Wall Street and the City, and yet his remarkable history is still little known. Mr Steinmetz's prose does not always sparkle and some arcane details of banking history are fuzzy, but the tale of Fugger's aspiration, ruthlessness and greed is riveting.

He was born into a family of well-to-do textile traders and bankers in Augsburg in 1459. He grew rich and powerful by risking his capital and his reputation to finance the territorial ambitions of the Habsburgs. Jacob relished the relationship, which began when Frederick III, the Holy Roman Emperor, was given a loan by Fugger's brother in spite of a dreadful credit rating. Jacob became principal banker to his son, Emperor Maximilian I, who established the Austro-Hungarian Empire, and to Charles V of Spain, whose victory at the Battle of Pavia entrenched the Habsburgs' hegemony. His huge loans were backed by collateral, and his Habsburg clients frequently paid them off in kind rather than cash.

Fugger was able to obtain control of commodities such as silver, from Austria, and

The Richest Man Who Ever Lived: The Life and Times of Jacob Fugger. By Greg Steinmetz. *Simon and Schuster*; 283 pages; \$27.95

copper, from Hungary. He built a smelter to refine the copper and traded it himself quite pitilessly. When he joined a cartel of copper producers in Venice they agreed to push up the price by squeezing the supply, but Fugger put pressure on his co-conspirators and rivals instead.

He flooded the market with so much metal that the price collapsed and his competitors were gravely weakened. Subsequently, he helped finance a Portuguese scheme to relocate the pepper and spice trade to Lisbon, a move so successful that it delivered a fatal blow to the commercial stature of Venice. He also had a thirst for

Also in this section

72 America's opioid problem

72 Worrying, a history

73 Visual art in Paris

73 Russian foreign policy

74 Japanese fiction

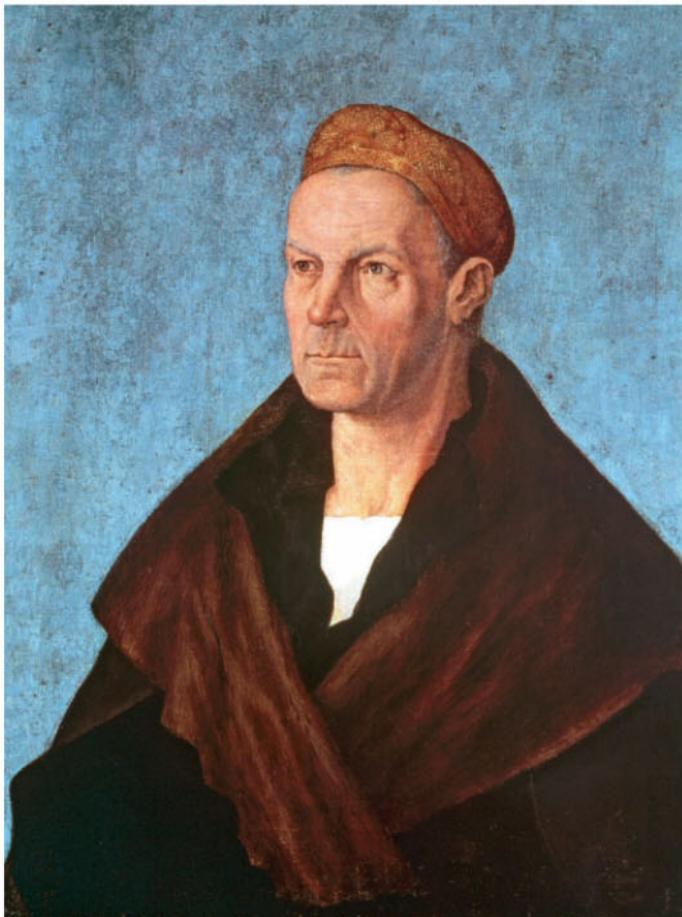
74 Japan after the bomb

information about trade and commerce that led him to create a network of couriers whose reports to Augsburg were printed and distributed to clients in the form of a primitive newspaper. Fugger had invented the world's first news service.

The financier raised fresh capital for his bank by exploiting savings accounts, which were first introduced in Augsburg and paid 5% a year, thus contravening the Catholic church's ban on usury. Fugger took his argument directly to Pope Leo X (a Medici, incidentally), who had personally benefited from his largesse. The pope was sympathetic and the ban on usury was conveniently rewritten in 1515, when the process was redefined as "a profit that is acquired without labour, cost or risk". Taking risks with clients' savings had become a legitimate business: "The modern economy", Mr Steinmetz writes, "was under way."

Fugger's relationship with the Vatican was based on an extensive branch network through which he could transfer offertory collections from Germany to Rome (in return for a 3% commission). But his most astonishing and unexpected historical achievement, says Mr Steinmetz, was unwittingly lighting the fuse that started the Reformation. Fugger teamed up with another Habsburg client, for whom he had bought the archbishopric of Mainz, and the pair began to sell indulgences (a forgiveness of sins, which provided, for a fee, a short cut to heaven), splitting the proceeds with Pope Leo, who used the cash to build St Peter's Basilica. In 1517 Martin Luther was sufficiently outraged by this scheme that he wrote the "95 Theses" that damned Rome, sparking the Protestant Reformation.

As he aged, Fugger made a series of enemies who wanted him dead. First the Teutonic Knights, a medieval military order, and then the German peasantry rose up against exploitation by the ►



► merchant class, of which Fugger was the figurehead. One leader of the German Peasants' Revolt in 1520 was a primitive communist priest, Thomas Müntzer, who promised his followers that God would kill Fugger. (During the cold war Müntzer's portrait appeared on an East German stamp, Fugger's on a West German one.) But he and his fellow merchants financed the armies that fought off the threat to their business. He died in his bed in 1525.

As a young man, Fugger vowed that he would go on making profits for as long as he could. And so he did. At his death he was a florin multimillionaire. He lived in luxury and slept well in a palace in Augsburg. Whatever the truth of Mr Steinmetz's assertion, Jacob Fugger would have been delighted to think that he was the richest man who ever lived. ■

America's opioid problem

Poppy love

Dreamland: The True Tale of America's Opiate Epidemic. By Sam Quinones. Bloomsbury; 368 pages; \$28 and £18.99

AMERICA is battling a massive epidemic of heroin and its pharmacological substitutes. By 2008 drug overdoses, mostly from opioids, overtook car crashes as the leading cause of accidental death. In a related development, the number of annual users of heroin jumped from 370,000 in 2007 to 680,000 in 2013.

The epidemic, as Sam Quinones, an American journalist, outlines in "Dreamland", a meticulously researched new book, has two root causes. One is a failure of regulation in the pharmaceutical industry;

try; the other is retail innovation in the black market.

In 1995 Purdue Pharma, a drug company in Stamford, Connecticut, was given permission by the Food and Drug Administration to market a powerful new opioid called OxyContin for moderate pain. Doctors, wary about prescribing opioids because of their markedly addictive nature, had previously used it for severe pain only. Many patients duly became addicts and "pill mills", pain clinics that handled millions of prescriptions, began to appear. But OxyContin and other strong opioid tablets were expensive and addicts began to turn to heroin, which was cheaper.

Where did the heroin come from? Much of the business belonged to the Xalisco Boys, a group of Mexicans from a small rural county in Nayarit state, who professionalised the business while semi-refining black-tar heroin in the early 1990s. They gave addicts phone numbers so that they could have heroin home-delivered, as if it were pizza. The deliveries were made by Mexican migrants who were paid handsome salaries and did not take drugs, and so had no incentive to adulterate the product (the invariable practice in most heroin dealing). Quality remained high. The migrants carried small amounts at a time, so when caught they were deported rather than imprisoned. The Xalisco Boys skirted large cities with established drug dealers and focused instead on small towns and rural America.

Portsmouth, Ohio, is one such town, and this is where Mr Quinones begins and ends his story. Its large open-air swimming pool, the eponymous Dreamland, was once the town's social focus. When local industry declined, the pool closed. Soon afterwards, America's first pill mill opened nearby and the Xalisco Boys arrived close behind. Mr Quinones tells many tragic tales, including of the deaths of teenagers

drawn to heroin after they were wrongly prescribed strong opioid painkillers.

He also has some more uplifting stories of policemen and district attorneys who slowly pieced together the Xalisco Boys' business model and took action. As for Purdue Pharma, eventually the company and three executives were fined \$634m for false branding, and OxyContin was re-engineered and made more difficult to abuse.

Mr Quinones draws several lessons from all this. Clearly, the state must be vigilant about the prescription of opioid painkillers. But where dependency does arise, it needs to be dealt with by doctors rather than criminals. Prohibition funnels addicts towards dealers, and the addiction becomes much harder to tackle. Meanwhile many Xalisco Boys got long prison sentences, but the gang is still in business. ■

Anxiety

Did I lock the back door?

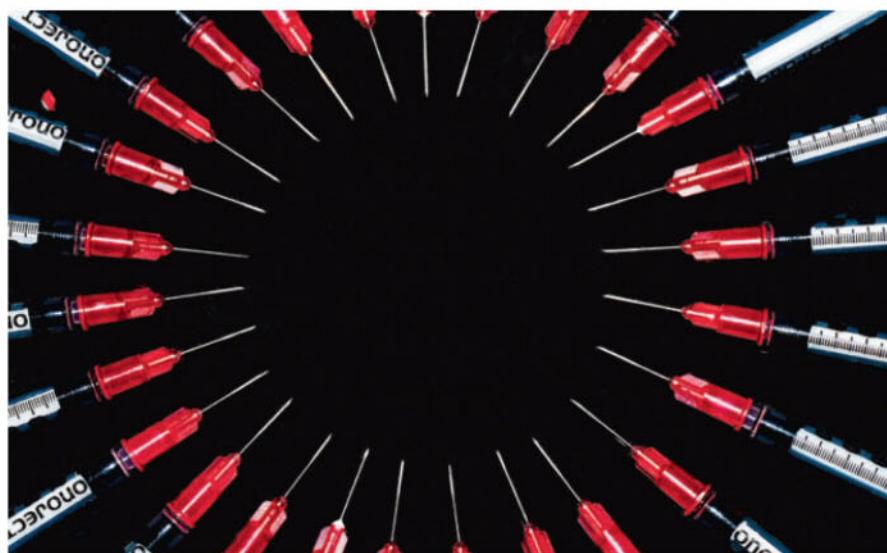
Worrying: A Literary and Cultural History. By Francis O'Gorman. Bloomsbury; 173 pages; \$20 and £14

WHEN he is not teaching Victorian literature at the University of Leeds or writing books, Francis O'Gorman admits to doing a lot of unnecessary brooding. "Worrying: A Literary and Cultural History" is his affectionate tribute to low-level fretting—what the author calls "the hidden histories of ordinary pain"—in everyone's life.

The word itself is comparatively new. Although it was used in the 16th century, in all of Shakespeare's works "worry" appears just once—as a transitive verb denoting strangling or choking. Only in the Victorian era did its contemporary meaning come into widespread use. The advent of literary modernism in the 20th century placed the personal inner world centre-stage. From James Joyce's Leopold Bloom to Virginia Woolf's Mr Ramsay, worriers came to abound in the modernist canon.

Humanity's sense of anxiety has deep roots. Contemporary angst is inextricably tied up with living in an advanced, hyper-modern society, and yet, when worrying takes hold, it often does so in ways that appear altogether premodern, even pre-Enlightenment. How else to explain, for example, the anti-rational, superstitious caprice of the obsessive compulsive or the obsessively religious?

Perhaps inevitably, in a short book on a sprawling topic, "Worrying" is meanderingly ruminative, flitting from Virgil and Homer to John Stuart Mill, Charles Dickens and W.G. Sebald, a German writer and aca-



A sharp price to pay



Don't worry, bead happy

► demic who died in 2001, while offering reflections, both on the contemporary self-help business and cosmetic surgery. But Mr O'Gorman is a pleasant and good-humoured guide, and his candid, self-effacing style helps mitigate any boredom. If there is a message, it addresses the ever-expanding cottage industry around happiness and well-being. The latest edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorder, DSM-5", has broadened psychiatry's reach into everyday life, medicalising and stigmatising an ever greater number of quirks and foibles. Against this backdrop, Mr O'Gorman's celebration of the wonderful eccentricity of human nature is both refreshing and necessary.

He believes that "being a modern worrier is just...the moth-eaten sign of being human" and playfully suggests that people should refine Descartes's famous dictum to: "I worry, therefore I am." ■

Visual art in Paris

Music, rhythm and dance are the beating heart of two vibrant exhibitions in Paris. "Beauté Congo" at the Fondation Cartier puts André Magnin's long experience as a curator and collector of African art to good use, from the discoveries he made at the Africa Museum at Tervuren, Belgium, of Albert Lubaki's watercolours of the 1920s to the boisterous recent works of Pierre Bodo, who died earlier this year, and J.P. Mika's "Kiese na Kiese" from 2014 (pictured), which feels almost as if it is pulsating. Across town, at the Fondation Louis Vuitton, Suzanne Pagé has overseen the assembly of a dynamic show of music and video art: from the gunshot-operatics of Chris Marclay's "Crossfire" to the ever more menacing trombones in "Viva España" by Pilar Albarracín and "The Krazy House", Rineke Dijkstra's rediscovery of the joys of youth. For further details visit economist.com/culture.

Russian foreign policy Blind alley

Russia and the New World Disorder. By Bobo Lo. Brookings Institution Press and Chatham House; 341 pages; \$34 and £25.50

SEEN from the Kremlin, Vladimir Putin's foreign policy is a series of triumphs. He has killed NATO expansion, regained Crimea and exposed the weakness and hypocrisy of the West. In Russia's eyes, argues Bobo Lo in a thoughtful new book, "the humiliated nation of the 1990s has metamorphosed into a resurgent global power". It is now "more independent, more indispensable, more self-confident, and more influential than at any time since the fall of the Soviet Union". As a result, it believes it can dictate the terms of its engagement with the West. The outside world must adjust to Russia, not the other way round, treating it as an equal, respected partner.

Mr Lo, a former Australian diplomat who now works at the Chatham House think-tank in London, adopts a commendably calm approach to a topic which attracts plenty of polemic. At every stage he outlines Russian views of the world fairly, and highlights Western mistakes and misapprehensions, before proceeding to paint the full picture in precise and sometimes scathing terms.

The fundamental problem is that the Kremlin's perception of the world is skewed. It exaggerates the West's weakness and its own strength. It prizes hard power, which it lacks, and persistently puts form over content in diplomacy. The international organisations that Russia trum-

pets, for example, such as the Shanghai Co-operation Organisation (a broad-based talking shop for Russia, China and Central Asia), the Eurasian Economic Union (a post-Soviet version of the European Union) or the Collective Security Treaty Organisation (an answer to NATO) are all empty shells. China regards Russia as a handy source of raw materials, not an ally: its priority is not confrontation with the West, but modernisation (at which Mr Putin's Russia has signally failed).

It gets worse. Russia depicts itself as a Eurasian power, but neither half of that idea works: it has marginalised itself in Europe, but is seen as an outsider by most Asian countries. Russia has largely failed to play a serious and constructive role in any attempts to solve the world's big problems.

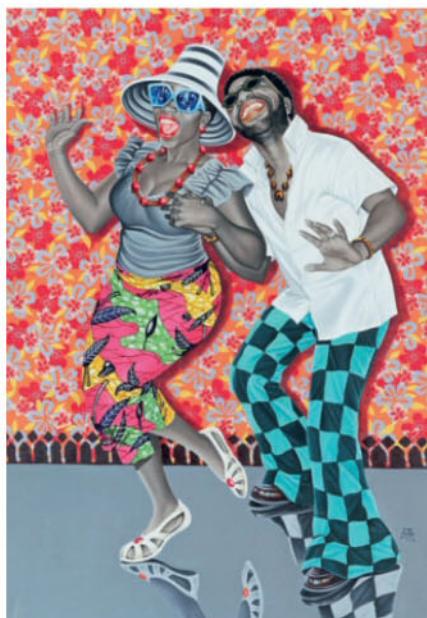
Even its most vital interests in neighbouring ex-Soviet countries are ill-served. The war in Ukraine brought modest gains at a huge cost: a more patient approach, given the West's stinginess and apathy, could have kept the country firmly in the Kremlin's camp. Russia's bellicose stance has alarmed countries such as Kazakhstan and Belarus, which were previously its most loyal allies.

Some hawkish readers may find Mr Lo too fair-minded. He is quite kind about the Obama administration's ill-starred "reset". He underplays Russia's ability to make mischief in other countries, particularly the overlaps between organised crime, espionage, energy exports and propaganda. The growing recklessness in Kremlin decision-making, and swaggering talk about nuclear weapons, adds an alarming new element to the picture.

Somewhat puzzlingly, Mr Lo believes a better Russian foreign policy is not just necessary, but also possible. He berates pessimists for their "lazy fatalism" without fully explaining why gloom is misplaced. Russia still has assets: vast territory, resources and brainpower, he argues. It can and should use them, developing constructive relations with its neighbours, running its eastern territories properly in order to be taken seriously in Asia and promoting an image of reliability and pragmatism.

Perhaps. Russia's co-operative stance on brokering the nuclear deal with Iran shows that the country is not always and everywhere a deluded spoiler in world affairs. But Mr Lo's advice to the West is probably more practical. Outsiders should be braced for "episodes of unpleasantness". Responding to aggression with ingratiation is both ineffectual and immoral. In particular, the West should stop apologising for NATO enlargement, which has brought "unparalleled security and prosperity" to central and eastern Europe.

Mr Lo's book is the best attempt yet to explain Russia's unhappy relationship with the rest of the world. It does not make comforting reading. Nor should it. ■



Japanese fiction

On to the beginning

Wind/Pinball: Two Novels. By Haruki Murakami. Translated by Ted Goossen. Knopf; 256 pages; \$25.95. Harvill Secker; £16.99

IN 1978, over the course of six months or so, Haruki Murakami juggled running a Tokyo jazz bar with writing a novel. A year later, using the same routine, he penned a sequel. "Hear the Wind Sing" and "Pinball, 1973", to give the two books their full titles, launched the author's career in Japan and went on to comprise the first two-thirds of his "Trilogy of the Rat". Never before published in English outside Japan, these two early works now appear in a single volume expertly translated by Ted Goossen.

"Hear the Wind Sing" follows the summer escapades of an unnamed narrator and his friend, known as the Rat. The hero spends his university break popping up j's bar with the Rat, listening to music, meditating on writing, reminiscing about ex-girlfriends (mourning one who hanged herself) and chasing a potential new one who has nine fingers.

The meatier and more surreal "Pinball, 1973" follows on directly. The narrator has moved on from university and away from the Rat. He now manages a translation company in Tokyo, lives with identical twin girls and becomes obsessed with the "occult world of pinball"—a turnaround from the previous novel in which he scorned the pinball machine as a "piece of junk that offers dead time in return for small change". The Rat, however, has no such colourful distractions, and flounders, a lost soul, both in his town and in his personal relationship.

These new-old books are short but by no means slight. Nor are they only for hardcore Murakami fans. Despite plots that offer little more than a catalogue of bizarre events and random musings, there are enough flashes of brilliance to keep the reader interested. Signals that would become familiar in Mr Murakami's fiction make an early appearance: characters alienated by society and afflicted by loneliness and *ennui*; quotidian detail that is, by turn, banal and fascinating; musical references; supernatural undertones; dark dreams and black humour ("Who knows, in another ten years we may be feeling nostalgic about napalm").

In his introduction, Mr Murakami describes how these books "warmed my heart, and encouraged me on my way". Readers can be grateful. "Wind/Pinball" is a fresh, heart-warming dose of the Japanese master. ■



Japan and the bomb

When the cloud parted

Nagasaki: Life After Nuclear War. By Susan Southard. Viking; 389 pages; \$28.95 and £20

AMERICA dropped its atom bomb on Nagasaki at 11.02am on August 9th 1945, three days after Little Boy fell on Hiroshima. In the years that followed, the story of Nagasaki's *hibakusha* (the "explosion-affected people", or survivors of the atom bomb) took second place. The best-known symbol of the world's first use of nuclear weapons was always Hiroshima.

It is this imbalance which Susan Southard's searing account of the experiences of five teenagers who lived through the attack on Nagasaki tries to redress. The second nuclear bomb, which killed over 70,000 civilians (with many more dying afterwards), struck as Japan's wartime leaders, shocked by Hiroshima, were already deliberating how to surrender. So, there has long been a sense that this second fireball was less justified than the first.

For a time, Nagasaki's citizens were thought by many Japanese to have accepted their city's obliteration more stoically than their fellow *hibakusha* in Hiroshima. It was not the atom bomb that gouged a huge hole in the Urakami river basin in the north, but Japan's own militarism, declared a revered Catholic priest, Takashi Nagai, who came to symbolise Nagasaki's response. "We dug it ourselves to the rhythm of military marches," he wrote. In his eyes Nagasaki had sacrificed itself on the altar of world peace, a view which went down well with the American occupiers, who carefully censored everything

published on the war's abrupt end.

The young heroes and heroines of Ms Southard's narrative see things differently. Anger, not forgiveness, consumes them. Katsuji Yoshida, aged 13 at the time, had been lifting water from a well about a kilometre from the centre of the explosion. For many years he and other *hibakusha* found it impossible to speak, even to their wives and husbands, of the bodies turned to charcoal, the severed limbs and heads split open, and worse, of fellow survivors with dangling eyes, walking with arms outstretched to keep their bomb-peeled skin from dragging on the charred ground. As he lay suffering from a back nearly burned off, Sumiteru Taniguchi, 16, directed his rage at the war and "all the parents who had done nothing to prevent it".

Harrowing accounts such as these were banned by the American censors, as were any reports of the suffering caused by the bomb, for fear of inciting Japanese animosity towards the occupation. The Americans also obscured the truth about radiation sickness and blocked the publication of scientific studies in Japan, impeding proper treatment for the sick and dying.

Most shocking in Ms Southard's book is the neglect the *hibakusha* received after the bombings at the hands of both the occupiers and their own countrymen. Censorship meant it was not until the 1950s that the Japanese public learned the full reality of the nuclear attacks. By then, those victims who had not succumbed to radiation sickness had gone for years without government support. Their horrific injuries and symptoms of radiation often did not qualify under national health insurance. Their disfigurements led to long periods of bullying at school and social exclusion.

The fight for medical care progressed slowly. Among the least-known victims of Nagasaki were 10,000 Koreans, who took 11 years to win the right to the same healthcare benefits as Japanese survivors. Even then, the law stipulated that they had to produce a Japanese witness to prove their experience of the bomb. But Koreans had lived in their own districts. "All my neighbours died of the bomb," one says. "How could you bring them? Bring a ghost?"

Ms Southard's book makes little attempt to balance the horror of the atomic bombings against America's need to end the mass slaughter in Asia, or against the imperial Japanese army's atrocities. Because of this, it sometimes comes close to a polemic against America's use of the bomb. Yet in the end that matters little, for it is the personal accounts that speak loudest. The *hibakusha* care more about campaigning for the eradication of nuclear weapons globally than accusing America. That mission, as the 70th anniversary of the bombings approaches, and many survivors near the end of their lives, is woefully incomplete. ■

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% change on year ago

	Gross domestic product			Industrial production		Consumer prices		Unemployment rate, %		Current-account balance		Budget balance	Interest rates, %	Currency units, per \$ Jul 29th year ago				
	latest	qtr*	2015†	latest	2015†	latest	2015†	n/a	2015†	latest 12 months, \$bn	% of GDP 2015†	% of GDP 2015†	10-year gov't bonds, latest					
United States	+2.9	Q1	-0.2	+2.3	+1.3	Jun	+0.1	Jun	+0.4	5.3	Jun	-406.4	Q1	-2.6	-2.5	2.24	-	-
China	+7.0	Q2	+7.0	+6.9	+6.8	Jun	+1.4	Jun	+1.4	4.0	Q2§	+288.2	Q1	+3.0	-2.7	3.16§§	6.20	6.18
Japan	-0.9	Q1	+3.9	+1.0	+2.0	Jun	+0.5	May	+0.8	3.3	May	+89.0	May	+2.4	-6.8	0.41	124	102
Britain	+2.6	Q2	+2.8	+2.4	+2.1	May	n/a	Jun	+0.3	5.6	Apr††	-180.5	Q1	-4.8	-4.4	2.04	0.64	0.59
Canada	+2.1	Q1	-0.6	+1.6	-2.1	Apr	+1.0	Jun	+1.2	6.8	Jun	-42.2	Q1	-2.9	-1.8	1.52	1.29	1.09
Euro area	+1.0	Q1	+1.5	+1.5	+1.6	May	+0.2	Jun	+0.2	11.1	May	+305.9	May	+2.5	-2.1	0.72	0.91	0.75
Austria	+0.3	Q1	+0.7	+0.6	+0.7	May	+1.0	Jun	+1.0	6.0	May	+6.5	Q1	+1.4	-2.1	0.96	0.91	0.75
Belgium	+0.9	Q1	+1.3	+1.3	+0.5	May	+0.6	Jun	+0.4	8.6	May	+12.1	Mar	+1.2	-2.6	1.03	0.91	0.75
France	+0.8	Q1	+2.5	+1.2	+2.8	May	+0.3	Jun	+0.3	10.3	May	-10.5	May‡	-0.8	-4.1	0.98	0.91	0.75
Germany	+1.0	Q1	+1.1	+1.7	+2.2	May	+0.3	Jun	+0.5	6.4	Jun	+278.1	May	+7.5	+0.7	0.72	0.91	0.75
Greece	+0.2	Q1	-0.7	+0.5	-4.0	May	-2.2	Jun	-1.0	25.6	Apr	+2.7	May	+2.6	-3.8	12.44	0.91	0.75
Italy	+0.1	Q1	+1.2	+0.6	+3.0	May	+0.2	Jun	+0.2	12.4	May	+45.0	May	+2.1	-2.9	1.91	0.91	0.75
Netherlands	+2.5	Q1	+2.3	+1.9	+2.1	May	+1.0	Jun	+0.4	8.8	Jun	+91.4	Q1	+9.7	-1.8	0.87	0.91	0.75
Spain	+2.6	Q1	+3.8	+2.9	+1.8	May	+0.1	Jun	-0.3	22.5	May	+14.1	Apr	+0.7	-4.4	2.00	0.91	0.75
Czech Republic	+4.0	Q1	+10.5	+3.1	+2.1	May	+0.8	Jun	+0.3	6.2	Jun§	+0.8	Q1	-0.3	-1.8	0.91	24.7	20.5
Denmark	+1.5	Q1	+2.0	+1.7	-3.2	May	+0.7	Jun	+0.6	4.8	Apr	+21.9	May	+6.0	-2.9	0.90	6.79	5.56
Norway	+1.5	Q1	+1.0	+0.7	+5.1	May	+2.6	Jun	+1.6	4.3	May‡‡	+39.3	Q1	+9.3	+6.0	1.64	8.15	6.25
Poland	+3.7	Q1	+4.1	+3.4	+7.6	Jun	-0.8	Jun	+0.2	10.3	Jun§	-1.2	May	-1.5	-1.5	2.94	3.76	3.10
Russia	-2.2	Q1	na	-3.6	-4.7	Jun	+15.3	Jun	+14.7	5.4	Jun§	+68.7	Q2	+4.3	-2.8	10.64	58.6	35.8
Sweden	+2.6	Q1	+1.5	+2.6	+3.3	May	-0.4	Jun	+0.2	8.5	Jun§	+38.1	Q1	+6.2	-1.2	0.74	8.64	6.85
Switzerland	+1.1	Q1	-0.8	+0.7	-0.5	Q1	-1.0	Jun	-1.0	3.3	Jun	+53.7	Q1	+7.9	+0.2	-0.02	0.97	0.91
Turkey	+2.3	Q1	na	+2.8	+0.5	May	+7.2	Jun	+7.3	9.6	Apr§	-44.7	May	-4.6	-1.6	9.73	2.77	2.12
Australia	+2.3	Q1	+3.8	+2.4	+2.8	Q1	+1.5	Q2	+1.7	6.0	Jun	-41.9	Q1	-3.2	-2.4	2.79	1.37	1.07
Hong Kong	+2.1	Q1	+1.5	+2.3	-1.6	Q1	+3.2	Jun	+3.1	3.2	Jun‡‡	+6.1	Q1	+2.8	nil	1.77	7.75	7.75
India	+7.5	Q1	+11.0	+7.6	+2.7	May	+5.4	Jun	+5.4	4.9	2013	-27.5	Q1	-1.0	-4.1	7.81	63.8	60.3
Indonesia	+4.7	Q1	na	+4.9	+8.2	May	+7.3	Jun	+6.2	5.8	Q1§	-25.2	Q1	-2.9	-2.0	8.48	13,468	11,629
Malaysia	+5.6	Q1	na	+5.5	+4.5	May	+2.5	Jun	+2.6	3.1	May§	+11.3	Q1	+3.4	-4.1	3.99	3.81	3.18
Pakistan	+5.5	2015**	na	+5.7	+5.9	May	+3.2	Jun	+4.1	6.0	2014	-2.3	Q2	-0.6	-5.1	9.55†††	102	98.8
Philippines	+5.2	Q1	+1.2	+6.6	-3.1	May	+1.2	Jun	+2.6	6.4	Q2§	+14.5	Mar	+4.1	-1.9	4.34	45.5	43.4
Singapore	+1.7	Q2	-4.6	+3.1	-4.4	Jun	-0.3	Jun	+0.4	2.0	Q2	+66.3	Q1	+21.3	-0.7	2.62	1.37	1.24
South Korea	+2.2	Q2	+1.2	+2.9	-2.8	May	+0.7	Jun	+1.0	3.9	Jun§	+98.0	May	+7.5	+0.4	2.37	1,162	1,025
Taiwan	+3.4	Q1	+2.7	+3.7	-1.4	Jun	-0.6	Jun	+0.3	3.8	Jun	+72.4	Q1	+12.7	-1.2	1.48	31.5	30.0
Thailand	+2.2	Q4	+7.1	+3.6	-8.0	Jun	-1.1	Jun	+1.1	0.9	May§	+16.1	Q1	+2.3	-2.0	2.48	35.0	31.8
Argentina	+1.1	Q1	+0.8	-0.4	+1.0	Jun	—	***	—	7.1	Q1§	-6.0	Q1	-1.5	-3.3	na	9.18	8.19
Brazil	-1.6	Q1	-0.6	-1.5	-8.9	May	+8.9	Jun	+8.4	6.9	Jun§	-93.1	Jun	-4.2	-5.8	13.17	3.33	2.23
Chile	+2.4	Q1	+4.2	+2.9	-1.3	May	+4.4	Jun	+3.8	6.6	May‡‡	-1.3	Q1	-1.3	-2.0	4.53	667	566
Colombia	+2.8	Q1	+3.3	+3.4	-3.9	May	+4.4	Jun	+4.1	8.9	May§	-20.7	Q1	-6.5	-2.1	7.12	2,848	1,859
Mexico	+2.5	Q1	+1.6	+2.7	-0.9	May	+2.9	Jun	+3.0	4.4	Jun	-25.5	Q1	-2.3	-3.4	6.07	16.3	13.1
Venezuela	-2.3	Q3	+10.0	-4.2	na	+68.5	Dec	+76.4	7.9	Jan§	+10.3	Q3	-1.8	-16.5	11.43	6.31	6.35	
Egypt	+4.3	Q4	na	+4.2	+0.2	May	+11.4	Jun	+9.9	12.8	Q1§	-10.2	Q1	-1.4	-11.0	na	7.83	7.15
Israel	+2.2	Q1	+2.0	+3.4	-1.5	May	-0.4	Jun	-0.2	5.0	May	+11.7	Q1	+4.8	-2.9	2.38	3.78	3.43
Saudi Arabia	+3.5	2014	na	+2.7	na	+2.2	Jun	+2.7	5.7	2014	+81.2	Q4	-2.4	-12.1	na	3.75	3.75	
South Africa	+2.1	Q1	+1.3	+2.0	-0.4	May	+4.7	Jun	+4.9	25.0	Q2§	-18.7	Q1	-5.2	-3.8	8.18	12.5	10.6

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, June 26.7%; year ago 39.46%. †††Dollar-denominated bonds.

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Markets

	Index Jul 29th	% change on			
		one week	Dec 31st 2014 in local currency terms	in local in \$ terms	Dec 31st 2014 -0.4 -0.4
United States (DJIA)	17,751.4	-0.6	-0.4	-0.4	
China (SSEA)	3,969.4	-5.9	+17.1	+17.0	
Japan (Nikkei 225)	20,302.9	-1.4	+16.3	+12.7	
Britain (FTSE 100)	6,631.0	-0.5	+1.0	+1.4	
Canada (S&P TSX)	14,301.8	nil	-2.3	-12.2	
Euro area (FTSE Euro 100)	1,185.6	-1.8	+14.3	+4.2	
Euro area (EURO STOXX 50)	3,575.5	-1.7	+13.6	+3.6	
Austria (ATX)	2,482.0	-1.6	+14.9	+4.8	
Belgium (Bel 20)	3,719.4	-2.3	+13.2	+3.2	
France (CAC 40)	5,017.4	-1.3	+17.4	+7.1	
Germany (DAX)*	11,211.9	-2.7	+14.3	+4.2	
Greece (Athex Comp)	797.5**	nil	-3.5	-12.0	
Italy (FTSE MIB)	23,248.9	-1.8	+22.3	+11.5	
Netherlands (AEX)	489.3	-1.4	+15.3	+5.1	
Spain (Madrid SE)	1,144.8	-1.8	+9.8	+0.1	
Czech Republic (PX)	1,026.6	-1.0	+8.4	+1.1	
Denmark (OMXCB)	900.8	-1.2	+33.4	+21.4	
Hungary (BUX)	22,321.5	-0.2	+34.2	+25.2	
Norway (OSEAX)	683.3	-0.8	+10.3	+1.7	
Poland (WIG)	52,288.1	+1.1	+1.7	-3.4	
Russia (RTS, \$ terms)	865.8	-4.0	+8.1	+9.5	
Sweden (OMX30)	1,597.9	-1.4	+9.1	-0.6	
Switzerland (SMI)	9,388.0	+1.1	+4.5	+7.8	
Turkey (BIST)	78,079.8	-3.9	-8.9	-22.8	
Australia (All Ord.)	5,609.6	+0.1	+4.1	-7.0	
Hong Kong (Hang Seng)	24,619.5	-2.6	+4.3	+4.3	
India (BSE)	27,563.4	-3.3	+0.2	-0.9	
Indonesia (JSX)	4,721.1	-3.8	-9.7	-16.9	
Malaysia (KLCSE)	1,699.0	-1.8	-3.5	-11.5	
Pakistan (KSE)	35,676.5	-1.1	+11.0	+9.6	
Singapore (STI)	3,284.0	-2.2	-2.4	-5.3	
South Korea (KOSPI)	2,037.6	-1.3	+6.4	+0.9	
Taiwan (TWI)	8,563.5	-4.0	-8.0	-7.5	
Thailand (SET)	1,417.5	-2.1	-5.4	-10.9	
Argentina (MERV)	11,313.7	-3.2	+31.9	+21.6	
Brazil (BVSP)	50,245.1	-1.3	+0.5	-20.0	
Chile (IGPA)	18,368.6	-2.8	-2.7	-11.4	
Colombia (IGBC)	10,091.5	+1.3	-13.3	-28.0	
Mexico (IPC)	44,471.3	-0.4	+3.1	-6.4	
Venezuela (IBC)	15,473.3	+3.0	+301	na	
Egypt (Case 30)	8,105.7	+0.2	-9.2	-17.1	
Israel (TA-100)	1,483.3	+1.2	+15.1	+18.6	
Saudi Arabia (Tadawul)	9,107.4	-2.8	+9.3	+9.4	
South Africa (JSE AS)	51,598.5	-0.7	+3.7	-4.1	

Stockmarkets

The MSCI World, a rich-world stockmarket index, is unchanged compared with this time last year. Despite falling by over a quarter since its peak last month, the Chinese stockmarket is up by over 70% for the year as a whole. Elsewhere, performance has been less mercurial. German and French stockmarkets have risen steadily, up by 16% and 15% respectively. Although the FTSE 100 reached a record high in April this year, it has since fallen and is down by 7% from its peak. The Brazilian stockmarket, rocked by political scandal, is struggling. But none has done as badly as the Greek equity market, which has lost a third of its value since this time last year and 85% since its peak in October 2007.

Selected, in local-currency terms

July 29th, % change on a year earlier



Source: Thomson Reuters

*In \$ terms

Other markets

	Index Jul 29th	% change on			
		one week	Dec 31st 2014 in local currency terms	in local in \$ terms	Dec 31st 2014
United States (S&P 500)	2,108.6	-0.3	+2.4	+2.4	
United States (NAScomp)	5,111.7	-1.2	+7.9	+7.9	
China (SSEB, \$ terms)	366.4	-0.6	+26.1	+26.0	
Japan (Topix)	1,633.9	-1.3	+16.1	+12.4	
Europe (FTSEurofirst 300)	1,561.5	-1.6	+14.1	+4.0	
World, dev'd (MSCI)	1,760.7	-0.3	+3.0	+3.0	
Emerging markets (MSCI)	900.1	-3.3	-5.9	-5.9	
World, all (MSCI)	425.6	-0.6	+2.0	+2.0	
World bonds (Citigroup)	866.8	+0.7	-3.9	-3.9	
EMBI+ (JP Morgan)	699.2	-0.4	+1.1	+1.1	
Hedge funds (HFRX)	1,228.9 [§]	-1.0	+0.9	+0.9	
Volatility, US (VIX)	12.5	+12.1	+19.2 (levels)		
CDSs, Eur (iTRAXX) [†]	62.7	+2.4	-2.8	-11.4	
CDSs, N Am (CDX) [†]	70.2	+2.4	+3.7	+3.7	
Carbon trading (EU ETS) €	8.1	+1.4	+10.5	+0.8	

Sources: Markit; Thomson Reuters. *Total return index.

[†]Credit-default-swap spreads, basis points. [§]Jul 28th. **Jun 26th.

Indicators for more countries and additional series, go to: Economist.com/indicators

The Economist commodity-price index

	Jul 21st	Jul 28th*	% change on	
			one month	one year
Dollar Index				
All Items	142.0	137.8	-5.7	-17.1
Food	165.1	160.3	-6.0	-12.3
Industrials				
All	117.9	114.4	-5.2	-23.1
Nfa [†]	119.1	115.2	-7.3	-19.2
Metals	117.5	114.1	-4.2	-24.7
Sterling Index				
All items	165.9	160.9	-4.8	-9.8
Euro Index				
All items	161.4	155.2	-4.8	+0.8
Gold				
\$ per oz	1,107.7	1,095.2	-6.3	-15.7
West Texas Intermediate				
\$ per barrel	50.5	47.7	-19.6	-52.7

Sources: Bloomberg; CME Group; Cotlook; Darmenn & Curl; FT; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Thomson Reuters; Urner Barry; WSJ. *Provisional

[†]Non-food agriculturals.

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A scholar in the desert

Patricia Crone, scholar of early Islam and campaigner for medical marijuana, died on July 11th, aged 70

ISLAM arose with remarkable speed and mystery. Patricia Crone's well-stocked mind, clear prose and unflinching intellectual honesty were devoted to explaining why. She had little time for Islam's own accounts of its origins: "debris" as far as historians were concerned, and hopelessly inconsistent. Far better, she reckoned, to fill the gap with contemporary sources and knowledge of other cultures, from messianic Maoris to Icelanders.

That required both personal and intellectual bravery. The central beliefs of Islam, such as the way the Koran took shape, the life of Muhammad and Islam's relations with other religions, are sensitive subjects. Outside scrutiny can make tempers flare, especially when the conclusions are expressed in a witty and sardonic style.

That is one reason why copies of "Hagarism", Ms Crone's first book, long out of print, now sell for hundreds of dollars. It was published in 1977, the year she whirled like a tornado into Oxford, terrifying the dusty dons. (The Oriental Institute was then a notable source of spies for MI6, despite the fact that the history syllabus for the BA in Arabic ended at 1258, the year the Mongols sacked Baghdad.) Her book drew on Armenian, Coptic, Greek, Persian and Syriac sources, as well as archaeology, to argue that Islam started as an Arab-Jewish

tribal rebellion against the Byzantine and Persian empires. The Arab "Hagarenes"—a reference to Abraham's concubine Hagar—reinvented themselves as a separate monotheistic religion only after they dumped their original messianic Judaism.

Ms Crone took a breezy attitude to religious sentiment. Her book was written "by infidels, for infidels" and no Muslim with faith the size of a mustard seed was likely to believe its thesis. It drew praise, but also a serious scolding from some academics: too conjectural, they said. Ms Crone removed her name, and that of her co-author Michael Cook, from the doorbell of their flat in Marylebone—though, in pre-fatwa days, they did not need to go into hiding.

The authors later distanced themselves from some of the book's more speculative arguments. But that was the result of conviction, not compromise. Ms Crone's steely blue eyes and steelier brain shunned any temptation to turn to safer topics, or to cloak her critiques of Islamic tradition in the jargon used by more cautious scholars. She simply refused to treat the Arabs as an exception to the normal rules of history; and something was badly wrong in Islamic studies, she said, if she had to justify that.

Not that she wanted to undermine Islam for the sake of it. She had no time for the extreme revisionists, who argued that

Muhammad never existed, or that the Koran was a garbled translation of Aramaic Christian texts. She just wanted to find out what earthly factors and influences might have shaped Islam and fuelled its success. She might not turn up the right answers; but it was right to ask the questions.

The widely held idea of a lucrative spice trade centred on Mecca, for example, was an "orientalist invention" to her. The city was just a desert oasis in Muhammad's time, with perhaps a modest leather trade. If the Koran called Muhammad's opponents "olive-growers", perhaps Islam sprang up farther north. Then came more questions. Why did military slavery play such a distinctive role in Islam? What was the real state of religious freedom in the early years of Islamic conquest? How did the idea of jihad arise? These were puzzles; they did not need to be mysteries.

Smoke and fire

Ms Crone's erudition was intimidatingly displayed in scores of articles and books. But in person she was fun and unassuming, with a love of cycling and distaste for hierarchy that showed her Danish origins. She made puppet theatres for children, held spectacular New Year parties for her friends, delighted to dance polkas and Strauss waltzes, and at Princeton, New Jersey, where she worked at the Institute for Advanced Study after 1997, assiduously tended both her own garden and a neighbour's. (Her sorrow when the plants withered was a necessary part of love, she said; a love she also found with another co-author, Martin Hinds, who died before her.)

A diagnosis of incurable cancer in 2011 turned that comfortable life upside down. She forswore whole-brain radiation, which would have prolonged her life at the risk of dulling her faculties. Instead she turned her formidable mind to the body's biochemistry. Could medical marijuana, as research suggested, stimulate the body's endocannabinoid system to delay or even beat the disease? She quizzed scientists, visited labs to see the effects of cannabis on tumour-laden mice, and travelled to Oregon to buy enough dope to make capsules of cannabis oil for her own use.

She had never puffed pot before (prodigious quantities of cigarettes had been her vice). The stuff made her nauseous and forgetful. But it may have helped hold off the cancer: the tumours grew more slowly than expected, giving her precious time.

A documentary film, "For the Life of Me", funded in part by her friends, charted her battle with the disease and her frustration at America's prohibitionist laws, which delayed research, wasted effort and sapped hope. It was just the sort of lazy dogmatism she had been battling for decades. Why rely on belief and tradition, when you can search for evidence? ■

CUBA SUMMIT

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Loosened restrictions and moves towards a more open market signal new opportunities for US companies looking to do business in Cuba. However, there is still a great deal of confusion and uncertainty around how to set up and operate there.

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