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Planet of the phones

By 2020
80% of adults will
have a supercomputer
in their pocket


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Politics

Venezuela's state security service arrested the mayor of metropolitan Caracas, Antonio Ledezma, after the president, Nicolás Maduro, accused him of plotting a coup against his government with the help of the United States. Venezuela's left-wing regime has been shaken by food shortages, soaring inflation and the falling price of oil. It faces parliamentary elections later this year. Critics of the government contend that Mr Ledezma's arrest shows that it intends to hold on to power by force.

The downgrading of Petrobras's credit rating to junk status by Moody's sent shivers through **Brazilian** markets. The state-controlled oil company is mired in a corruption scandal involving politicians from Brazil's ruling Workers' Party, preventing Petrobras from undertaking a proper financial audit.

Jamaica's parliament passed a law that decriminalises the possession of small amounts of marijuana. It had hesitated legalising use of the weed for fear of reprisals by America. That fear eased after a few American states decriminalised cannabis. Marijuana was made legal in **Washington, DC**, this week following a local referendum last November. But Congress, which officially oversees the city, has warned that it is breaking federal law.

Taking it on all fronts

The government of **Ukraine** struggled to cope with mounting economic problems, including a sharp decline in the value of its currency. The central bank intervened to prop up the hryvnia through currency controls. Fighting was more subdued in the country's east, ten days after a ceasefire was supposed to come into force.

The new left-wing government in **Greece** managed to satisfy, at least provisionally, finance ministers from fellow members of the euro zone with its reform plan, staving off the immediate risk of a financial meltdown. But in Athens some supporters of Alexis Tsipras, the prime minister, were disappointed by the climbdown from the radical programme on which his Syriza party was only recently elected.

The European Commission granted **France** an extra two years to meet its mandated budget deficit target of 3% of GDP. The deadline had already been extended by two years in 2013. It gave little explanation for the latest extension, which disappointed fiscal hawks.

The **Austrian** parliament passed a controversial change to a law governing Islam that replaces legislation dating back to the Austro-Hungarian empire a century ago. The new law forbids foreign funding for imams and mosques, a restriction that does not apply to Christian or Jewish places of worship.

In **Britain** Sir Malcolm Rifkind stepped down as the head of the parliamentary committee that oversees the intelligence and security services, after he was caught in a media sting promising a fake Chinese firm that he could provide access to ambassadors. Jack Straw, who, like Sir Malcolm, is a former foreign secretary, was similarly ensnared. Both claimed not to have broken parliamentary rules on "cash for access".

Office politics

The chairman of the UN's **Intergovernmental Panel on Climate Change** resigned amid claims that he sexually harassed a female researcher. Rajendra Pachauri had led the IPCC since 2002, steering it through major controversies, such as the leaked documents that formed the basis of "climategate". He had been due to step down in October.

A court in **Bangladesh** issued a warrant to arrest Khaleda Zia, the opposition leader, on five-year-old charges. Since boycotting elections a year ago, Mrs Zia has been in a stand-off with the ruling Awami League and Sheikh Hasina, the prime minister. At least 100 people have been killed in recent clashes.

China responded angrily to a visit by **India's** prime minister, Narendra Modi, to the north-eastern Indian state of Arunachal Pradesh. Most of the state is claimed by China as part of neighbouring Tibet. Mr Modi did not publicly mention territorial disputes, which have plagued relations between the two countries since a border war in 1962.

The family of **Lee Kuan Yew**, Singapore's founding father, admitted that he had been in hospital since early February and is on life support.

North Korea banned foreigners from taking part in a cult (for Westerners) marathon in April in Pyongyang. Strict entry restrictions to the country have applied since October, when the threat of Ebola was cited as being necessary to quarantine visitors. State media have suggested that the virus was created by America as a biological weapon.

A disruptive guest

Controversy mounted within Israel and America over the decision by **Israel's** prime minister, Binyamin Netanyahu, to address both houses of Congress in early March. Mr Netanyahu was invited by John Boehner, the Speaker of the House of Representatives, who did not consult the White House. Several prominent Israelis and Americans have warned that his speech could damage relations with the American administration.

Between 90 and 285 Christians were believed to have been abducted by **Islamic State** in the north-east of Syria. Concern is mounting for their welfare because of the mass-rape and murder of the group's other captives, including Yazedis in Iraq.

Football's governing body said that it would hold the 2022 World Cup in **Qatar** during November and December that year, to avoid the hot summer. Holding it in those months would cut the revenue earned by football clubs by disrupting their normal schedule, and add heat to the contentious decision to stage the tournament in Qatar in the first place.

No longer the teachers' pet

In **Chicago's** mayoral election Rahm Emanuel, the incumbent, failed to secure an outright win. He got 45% of the vote, which is below the majority threshold and means he will have to face Jesus "Chuy" Garcia, who came second, in a run-off on April 7th.

As expected, Barack Obama **vetoed** a bill that would have given the go ahead for the controversial Keystone XL pipeline. Mr Obama quashed the bill because he said it circumvented the State Department's lengthy appraisal of the project. It was only the third veto of his presidency; more are expected now that the Republicans control Congress.

Business

Janet Yellen gave another signal to markets that the Federal Reserve is inclined to raise **interest rates** this year. Speaking to a Senate committee, the Fed's chairwoman used the carefully constructed language of central bankers to talk about the circumstances under which near-zero interest rates would rise. The first step would be to stop using the word "patient" to describe the Fed's approach to rate increases; its presence in Fed statements is seen by markets as a signal that rates won't rise for at least two consecutive rate-setting meetings.

Ms Yellen's gradualism spurred already bullish stockmarkets, helping push the S&P 500 and Dow Jones Industrial Average to record highs again. The **FTSE 100**, London's benchmark index, closed at 6,949.6 on February 24th, breaking a record that had been set at the end of 1999. But the **NASDAQ's** longest winning streak in nearly six years came to an end when **Apple's** share price, which accounts for a tenth of the index, fell after Google unveiled a version of Android for businesses.

The number of European Union countries with negative annual rates of **inflation** rose to 23 in January, leaving just five countries (Austria, Britain, Malta, Romania and Sweden) recording a rise, albeit anaemic, in consumer prices. The average EU inflation rate was -0.5%; in Greece it was -2.8%.

The central bank of **Azerbaijan** devalued the country's currency, the manat, by a third. This was done in part to "strengthen its international compatibility" with a much-weakened Russian rouble.

South Africa's economy grew by 1.5% last year, the slowest pace since the depths of the global financial crisis, as the country grappled with crippling strikes in the mining and manufacturing industries. With those disputes over, GDP increased by 4.1% in the fourth quarter on an annualised basis. The government this week presented a budget of tax rises and spending cuts, which didn't impress investors.

In the firing line

Stuart Gulliver, the chief executive of **HSBC**, was hauled in front of a committee in Parliament to answer questions about claims that the bank's Swiss offices had helped clients avoid tax. The bank itself reported a 17% drop in annual pre-tax profit, to $18.7 billion.

Royal Bank of Scotland, which is still majority-owned by the British taxpayer after being bailed out by the Treasury in 2008, reported a loss of £3.5 billion ($5.8 billion) for last year, its seventh straight annual loss.

In a big shake-up of its top brass **Standard Chartered** announced that Peter Sands is to step down as chief executive. He will be replaced by Bill Winters, who used to head the investment bank at JPMorgan Chase and was once considered a contender to take over from Jamie Dimon in the top job there. Standard's chairman and several senior executives are also departing. The bank's share price has wilted in recent years because the once-hot emerging markets that are its mainstay have cooled rapidly.

Gemalto, the world's biggest manufacturer of mobile-phone SIM cards, said that a **hacking** attempt by American and British intelligence agencies into its network in 2010 and 2011 "probably happened". The incursion was reported by a website that has published articles based on leaks from Edward Snowden. Gemalto described the intrusion as "particularly sophisticated", but said that it could not have resulted in a "massive theft" of SIM encryption keys.

Just in time

A new record was set on **Kickstarter**, the biggest of the crowdfunding sites that gather large numbers of people to invest in ventures in return for rewards. The latest smartwatch to be developed by **Pebble** raised $1m in 30 minutes, the quickest time it has taken to reach that target on Kickstarter.

In the latest blockbuster deal in the drugs industry, **Valeant**, which last year lost its takeover bid for Allergan, the maker of Botox, agreed to buy **Salix** in a $14.5 billion acquisition.

Lego reported a net profit of DKr7 billion ($1.2 billion) for 2014, up by 15% from 2013 and the tenth consecutive year of higher earnings. The Danish company is building its strategy brick by brick on the success of its Star Wars-themed play sets and "The Lego Movie", which led to a shortage of Lego toys in September.

Tell that to the jury

The judge who is overseeing the trial of **Eike Batista** on insider-trading charges was caught driving a Porsche that once belonged to the Brazilian tycoon. Mr Batista's assets have been seized by the police, but the judge thought the Porsche was not being held securely, and he wanted it "preserved in good condition", so he decided "to look after it".

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

Planet of the phones

The smartphone is ubiquitous, addictive and transformative

THE dawn of the planet of the smartphones came in January 2007, when Steve Jobs, Apple's chief executive, in front of a rapt audience of Apple acolytes, brandished a slab of plastic, metal and silicon not much bigger than a Kit Kat. "This will change everything," he promised. For once there was no hyperbole. Just eight years later Apple's iPhone exemplifies the early 21st century's defining technology.

Smartphones matter partly because of their ubiquity. They have become the fastest-selling gadgets in history, outstripping the growth of the simple mobile phones that preceded them. They outsell personal computers four to one. Today about half the adult population owns a smartphone; by 2020, 80% will. Smartphones have also penetrated every aspect of daily life. The average American is buried in one for over two hours every day. Asked which media they would miss most, British teenagers pick mobile devices over TV sets, PCs and games consoles. Nearly 80% of smartphone-owners check messages, news or other services within 15 minutes of getting up. About 10% admit to having used the gadget during sex.

The bedroom is just the beginning. Smartphones are more than a convenient route online, rather as cars are more than engines on wheels and clocks are not merely a means to count the hours. Much as the car and the clock did in their time, so today the smartphone is poised to enrich lives, reshape entire industries and transform societies—and in ways that Snapchatting teenagers cannot begin to imagine.

Phono sapiens

The transformative power of smartphones comes from their size and connectivity. Size makes them the first truly personal computers. The phone takes the processing power of yesterday's supercomputers—even the most basic model has access to more number-crunching capacity than NASA had when it put men on the Moon in 1969—and applies it to ordinary human interactions (see pages 19-22). Because transmitting data is cheap this power is available on the move. Since 2005 the cost of delivering one megabyte wirelessly has dropped from $8 to a few cents. It is still falling. The boring old PC sitting on your desk does not know much about you. But phones travel around with you—they know where you are, what websites you visit, whom you talk to, even how healthy you are.

The combination of size and connectivity means that this knowledge can be shared and aggregated, bridging the realms of bits and atoms in ways that are both professional and personal. Uber connects available drivers to nearby fares at cheaper prices; Tinder puts people in touch with potential dates. In future, your phone might recommend a career change or book a doctor's appointment to treat your heart murmur before you know anything is amiss.

As with all technologies, this future conjures up a host of worries. Some, such as "text neck" (hunching over a smartphone stresses the spine) are surely transient. Others, such as dependency—smartphone users exhibit "nomophobia" when they happen to find themselves empty-handed—are a measure of utility as much as addiction. After all, people also hate to be without their wheels or their watch.

The greater fear is over privacy. The smartphone turns the person next to you into a potential publisher of your most private or embarrassing moments. Many app vendors, who know a great deal about you, sell data without proper disclosure; mobile-privacy policies routinely rival "Hamlet" for length. And if leaked documents are correct, GCHQ, Britain's signals-intelligence agency, has managed to hack a big vendor of SIM cards in order to be able to listen in to people's calls (see page 21). If spooks in democracies are doing this sort of thing, you can be sure that those in authoritarian regimes will, too. Smartphones will give dictators unprecedented scope to spy on and corral their unwilling subjects.

The naked app

Yet three benefits weigh against these threats to privacy. For a start, the autocrats will not have it all their own way. Smartphones are the vehicle for bringing billions more people online. The cheapest of them now sell for less than $40, and prices are likely to fall even further. The same phones that allow governments to spy on their citizens also record the brutality of officials and spread information and dissenting opinions. They feed the demand for autonomy and help protest movements to coalesce. A device that hands so much power to the individual has the potential to challenge authoritarianism.

The second benefit is all those personal data which companies are so keen on. Conventional social sciences have been hampered by the limited data sets they could collect. Smartphones are digital census-takers, creating a more detailed view of society than has ever existed before and doing so in real time. Governed by suitable regulations, anonymised personal data can be used, among many other things, to optimise traffic flows, prevent crime and fight epidemics.

The third windfall is economic. Some studies find that in developing countries every ten extra mobile phones per 100 people increase the rate of growth of GDP-per-person by more than one percentage point—by, say, drawing people into the banking system. Smartphones will remake entire industries, at unheard-of speed. Uber is a household name, operating in 55 countries, but has yet to celebrate its fifth birthday. WhatsApp was founded in 2009, and already handles 10 billion more messages a day than the SMS global text-messaging system. The phone is a platform, so startups can cheaply create an app to test an idea—and then rapidly go global if people like it. That is why it will unleash creativity on a planetary scale.

By their nature, seminal technologies ask hard questions of society, especially as people adapt to them. Smartphones are no different. If citizens aren't protected from prying eyes, some will suffer and others turn their backs. Societies will have to develop new norms and companies learn how to balance privacy and profit. Governments will have to define what is acceptable. But in eight short years smartphones have changed the world—and they have hardly begun. ■

Brazil

In a quagmire

Latin America's erstwhile star is in its worst mess since the early 1990s

CAMPAIGNING for a second term as Brazil's president in an election last October, Dilma Rousseff painted a rosy picture of the world's seventh-biggest economy. Full employment, rising wages and social benefits were threatened only by the nefarious neoliberal plans of her opponents, she claimed. Just two months into her new term, Brazilians are realising that they were sold a false prospectus.

Brazil's economy is in a mess, with far bigger problems than the government will admit or investors seem to register. The torpid stagnation into which it fell in 2013 is becoming a full-blown—and probably prolonged—recession, as high inflation squeezes wages and consumers' debt payments rise (see page 63). Investment, already down by 8% from a year ago, could fall much further. A vast corruption scandal at Petrobras, the state-controlled oil giant, has ensnared several of the country's biggest construction firms and paralysed capital spending in swathes of the economy, at least until the prosecutors and auditors have done their work. The real has fallen by 30% against the dollar since May 2013: a necessary shift, but one that adds to the burden of the $40 billion in foreign debt owed by Brazilian companies that falls due this year.

Escaping this quagmire would be hard even with strong political leadership. Ms Rousseff, however, is weak. She won the election by the narrowest of margins. Already, her political base is crumbling. According to Datafolha, a pollster, her approval rating fell from 42% in December to 23% this month. She has been hurt both by the deteriorating economy and by the Petrobras scandal, which involves allegations of kickbacks of at least $1 billion, funnelled to politicians in her Workers' Party (PT) and its coalition partners. For much of the relevant period Ms Rousseff chaired Petrobras's board. If Brazil is to salvage some benefits from her second term, then she needs to take the country in an entirely new direction.

Levy to the rescue?

Brazil's problems are largely self-inflicted. In her first term Ms Rousseff espoused a tropical state-capitalism that involved fiscal laxity, opaque public accounts, competitiveness-sapping industrial policy (see Schumpeter) and presidential meddling in monetary policy. Last year her re-election campaign saw a doubling of the fiscal deficit, to 6.75% of GDP.

To her credit, Ms Rousseff has at least recognised that Brazil needs more business-friendly policies if it is to retain its investment-grade credit rating and return to growth. This realisation is personified by her new finance minister, Joaquim Levy, a Chicago-trained economist and banker and one of the country's rare economic liberals (see page 30). However, Brazil's past failure to deal promptly with macroeconomic distortions has left Mr Levy to grapple with a recessionary trap.

To stabilise gross public debt, he has promised a whopping fiscal squeeze of almost two percentage points of GDP this year. Part of this is coming from the removal of an electricity subsidy and the reimposition of fuel duty. Both measures have helped to push inflation to 7.4%. He also plans to curb subsidised lending by public banks to favoured sectors and firms.

Ideally, Brazil would offset this fiscal squeeze with looser monetary policy. But because of the country's hyperinflationary past, as well as more recent mistakes—the Central Bank bent to the president's will, ignored its inflation target and foolishly slashed its benchmark rate in 2011-12—the room for manoeuvre today is limited. With inflation still above its target, the Central Bank cannot cut its benchmark rate from today's level of 12.25% without risking further loss of credibility and sapping investor confidence. A fiscal squeeze and high interest rates spell pain for Brazilian firms and households and a slower return to growth. What makes this adjustment perilous is the political fragility of Ms Rousseff herself. On paper she won a comfortable, though reduced, legislative majority in the October election. Yet the PT is already grumbling about Mr Levy's fiscal policies—partly because the campaign did not lay the ground for them. Ms Rousseff suffered a crushing defeat on February 1st in an election for the politically powerful post of head of the lower house of Congress. Eduardo Cunha, who vanquished the PT's man, will pursue his own agenda, not hers. Not for the first time, Brazil may be in for a period of semi-parliamentary government.

The country thus faces its biggest test since the early 1990s. The risks are clear. Recession and falling tax revenue may undermine Mr Levy's adjustment. Any backsliding may in turn prompt a run on the real and a downgrade in Brazil's credit rating, raising the cost of financing for government and companies alike. Were Brazil to see a repeat of the mass demonstrations of 2013 against corruption and poor public services, Ms Rousseff might be doomed.

From weakness, opportunity

Yet the president's weakness is also an opportunity—and for Mr Levy in particular. He is now indispensable. He should build bridges to Mr Cunha, while making it clear that if Congress tries to extract a budgetary price for its support, that will lead to cuts elsewhere. The recovery of fiscal responsibility must be lasting for business confidence and investment to return. But the sooner the fiscal adjustment sticks, the sooner the Central Bank can start cutting interest rates.

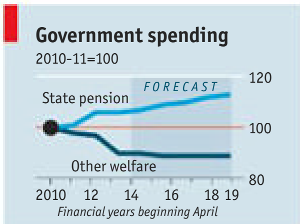
More is needed for Brazil to return to rapid and sustained growth. It may be too much to expect Ms Rousseff to overhaul the archaic labour laws that have helped to throttle productivity, but she should at least try to simplify taxes and cut mindless red tape. There are tentative signs that the government will scale back industrial policy and encourage more international trade in what remains an over-protected economy.

Brazil is not the only member of the BRICS quintet of large emerging economies to be in trouble. Russia's economy, in particular, has been battered by war, sanctions and dependence on oil. For all its problems, Brazil is not in as big a mess as Russia. It has a large and diversified private sector and robust democratic institutions. But its woes go deeper than many realise. The time to put them right is now. ■

Intergenerational fairness

The granny state

Britain should stop subsidising the old and rich at the expense of the young and poor



INVOKING the spirit of the Blitz, Britain's Conservative-led government says that, when it comes to austerity, Britons are in it together. Yet the group born under the shadow of the country's wartime trials is largely exempt. Since 2010 the basic state pension has risen by 16%—5% in real terms—under a formula that guarantees generous increases whatever the economic weather. Pensioners also enjoy free TV licences, free bus passes and a handout to help pay winter fuel bills. The government even subsidises their savings, by offering bonds yielding 4% interest—more than five times its own borrowing cost—exclusively to the over-65s. And if the Tories are returned to power at the general election in May, oldies can expect more of this largesse. On February 23rd David Cameron, the Tory prime minister, promised to protect their handouts on the basis that "these people have fought wars, seen us through recessions—made this the great country it is today" (see page 50).

That argument is economically senseless and morally indefensible. Over the past five years, the average British household has seen its income fall by about £500 as a result of coalition tax increases and spending cuts. The average two-pensioner household has taken a hit of just £23. Yet far from being the shivering, uncomplaining veterans of Tory spin, its members more typically came of age in the easy-living 1960s. Buoyed by generous pensions and decades of soaring house prices, the wealthiest fifth of pensioner households enjoy average incomes well over twice the British average: for such lucky wrinklies, the winter-fuel allowance is less an inducement to turn on the radiator than an invitation to *chambrer* some decent wine. And as more British home-owners approach retirement, the numbers of rich pensioners will grow. The truth is Mr Cameron is motivated less by a desire to uphold the dignity of age than to bribe pensioners—the Britons most likely to vote Tory.

Contrast their treatment with that of younger Britons, whose taxes are paying for their pampered elders. Unlike state pensions, working-age handouts have been squeezed. Child benefit, previously a universal payment to parents, is now means-tested. The Tories have promised the young even more austerity, by making them work for unemployment benefits—which are already 21% less generous for the under-25s—and denying them housing benefit.

Transfers from young to old can be justified, both because many of the old cannot work and because technological progress means youngsters are likely to end up better off than their grandparents. Yet today's low-skilled Britons, unlike their grandparents, have seen their incomes serially squeezed. At 14%, youth unemployment is high. And for those without property to inherit, exorbitant rents and house prices—the result of decades of failed planning—have dashed the dream of home-ownership to which Britons aspire.

Tough but fair

Britain's next government must redress this imbalance, not worsen it, as Mr Cameron proposes. It should scrap the free bus tickets and other pensioner bungs, which would save £3 billion. By means-testing the state pension, it should bump up payments to poor pensioners and gradually withdraw them from the richest ones. Many oldies would feel aggrieved; the universal state pension has long been seen as a cornerstone of the welfare state. Yet money is short, and the scale of today's redistribution from the poor to the rich is hard to defend. Moreover, reforming the pension could help preserve a more cherished cornerstone. Cutting the state pension bill by a fifth would save about £15 billion. That is about half the extra cash the National Health Service will soon require—if it is to meet the steeply rising demands of Britain's greying population. ■

Venezuela's crackdown

A slow-motion coup

The authoritarian regime is becoming a naked dictatorship. The region must react

VENEZUELA'S "Bolivarian" regime is lurching from authoritarianism to dictatorship. On February 19th it arrested the elected mayor of metropolitan Caracas, Antonio Ledezma. Then it moved to expel Julio Borges, a moderate opposition leader, from the National Assembly—a fate already suffered by his colleague, María Corina Machado, ejected last year. Leopoldo López, another opposition leader, has been in jail for a year and is now on trial. Almost half the opposition's mayors now face legal action. The regime's favourite charge to level at hostile politicians is plotting to overthrow the government, often in conspiracy with the United States. But it is the president, Nicolás Maduro, who is staging a coup against the last vestiges of democracy. Venezuelans call it an *autogolpe*, or "self-coup".

Hugo Chávez, who created and presided over the Bolivarian state-socialist system until his death in 2013, was repeatedly elected by Venezuelans, thanks to windfall oil revenues and his rapport with the poor. He took his majority as a mandate to squeeze the life out of Venezuelan democracy, seizing control of the courts and the electoral authority, and suppressing opposition media. Latin America's governments acqui- ▸▸

esced partly because they acknowledged his popular support.

Mr Maduro, though, lacks Chávez's charisma and political skills—and his luck with the oil price. Crackpot economic policies have brought food shortages, soaring inflation and rising poverty. Popular support for the president and government has collapsed to around 20%. In a fair contest, the opposition would be likely to win parliamentary elections due this year. It could then hold a referendum in 2016 to recall Mr Maduro.

Time to speak up

In one respect—repressing his opposition—Mr Maduro exceeds his former boss. Chávez let rivals challenge him in a free-ish vote. Mr Maduro locks them up. On February 24th a 14-year-old boy at a demonstration against the government was killed by a policeman's rubber bullet. The policeman was arrested. But such incidents raise the likelihood that the confrontation between the regime and its critics will turn violent, providing an excuse for still more repression. To that end, the arrest of Mr Ledezma may have been intended to provoke a reprise of last year's demonstrations against the government, in which 43 people on both sides of the conflict were killed. Those served only to strengthen Mr Maduro.

The prime responsibility for avoiding such violence lies with Mr Maduro. But both the opposition and Venezuela's neighbours have a role in trying to keep the peace and rescuing democracy. Faced with the regime's drift towards lawlessness, the opposition's response should be to redouble its commitment to the rule of law. Mr Ledezma has called for non-violence. The opposition is pressing the electoral authority to set a date for the parliamentary vote.

The opposition deserves help. For too long Latin America has tolerated Venezuela's abuse of democratic norms. The latest outrages have provoked expressions of concern from Brazil, the Organisation of American States and others. They must do more. They should demand the release of Mr Ledezma and Mr López and call for guarantees that the election will be fair. If they fail to get them, they should suspend Venezuela from regional groupings, such as the South American Union, which require their members to be democracies. The threat of becoming a pariah might just give Mr Maduro pause. ■

Sports extravaganzas

Games that must stop

Major international sporting events must not become the preserve of autocrats

BAKU is humming with the customary accompaniments to showcase events: lavish new facilities are being finished, sponsors schmoozed, and human-rights activists and awkward journalists locked up. For June's European Games—an unconvincing new tournament that Azerbaijan is hosting—the brutal regime is using the formula it honed at the Eurovision Song Contest of 2012, and hopes to deploy for the Olympic games of 2024. Smile, spend big and suppress dissent.

Sport is separate from politics, and can even be therapy for it; or so its organisers often maintain. What does it matter if some faraway goon blows his petrodollars on a summer jamboree—or a winter one, as will now be the case for the 2022 World Cup in Qatar, which FIFA, football's disgraced governing body, this week farcically moved to December to avoid the intolerable heat? It matters. Frivolous as they seem, staging these events in ghastly places not only tarnishes FIFA, the International Olympic Committee (IOC) and other overseers. It renders all involved complicit in corruption, and worse.

As a new study (reviewed on page 74) makes clear, democratic governments and their pinched voters are realising that although the public benefits of hosting these events are vague, the outlays—and losses—are high and rising. London's Olympics were sublime, but the costs more than tripled from initial estimates. Brazil's World Cup led to riots as well as footballing disaster for the home side. The preference of FIFA and the IOC for glitzy new stadiums, and an inflationary contest in spectacle, do not help. The risk is that the field is left to authoritarian countries. The Winter Olympics of 2022 now has only two bidders: China and Kazakhstan. Last year's winter games were held in Sochi, Russia, just as Vladimir Putin's meddling in Ukraine boiled over into bloodshed. Invasions notwithstanding, in 2018 Mr Putin is due to preside over the next World Cup.

The trouble is that these shindigs are not merely symptomatic of authoritarianism: they are themselves occasions for self-aggrandisement, larceny and abuse. The prestige and propaganda fodder they confer is only their most obvious incidental perk. Costs are spiralling not only because of white-elephant projects, but because such extravaganzas are a gold-medal chance for autocrats to reward cronies through kickbacks and dodgy contracts. The well-connected rich get richer (and the autocrats more safely ensconced) while, too often, the poor get little or nothing. Human rights can suffer directly, too. Sometimes, as in Azerbaijan, critics are incarcerated in advance or, if they cause embarrassment during the circus, are banged up when it moves on. Too many of Qatar's migrant construction workers are still labouring in conditions akin to indentured servitude; alarming numbers are dying.

Synchronised skimming

All this means that awarding a tournament to a nasty regime, and even attending it, is neither neutral nor blameless. Visiting teams in effect use their own countries' public funds to shore up repression abroad. And the ascendancy of authoritarians is killing sport's claim to promote dignity and fraternity.

Three kinds of change are needed. Sponsors and participants must force the organising bodies, above all the egregious FIFA, to clean up their acts, by making public both their decision-making on venues and their executives' interests. The arms-race in razzmatazz and pointless new construction must end, so that the costs for hosts become less prohibitive. Finally, the human-rights records of applicants—not just their easy promises of improvements—must be taken into account. The figleaf idea that sport can float free of mundane political reality must go. It never could. ■

How to deal with Russia

There was little to disagree with in your briefing on what Russia wants ("From cold war to hot war", February 14th). Your picture of a resentful, mistrustful, heavily armed, bullying and lawbreaking—but not revanchist—Russia was spot-on. However, you did exaggerate the danger Russia poses to, for example, the Baltic countries. What on earth would the Russians want there? And if they don't take Article 5 seriously, why are they so concerned about Ukraine joining NATO?

The big question you left unanswered is what do we do with this big angry country on our borders? The answer on the security side is to reinsure, as NATO is sort of doing (though European defence budgets continue to fall). On the political side Angela Merkel is right. This has to be a long game. The West has all the advantages: democracy, rule of law, a relative lack of corruption, prosperity. A growing number of Russians want all this as well, as illustrated by the big protests a few years ago. The solution to the Russia problem is not to sanction and isolate, but to hug close and thus, eventually, subvert.

SIR TONY BRENTON
British ambassador to Russia 2004-08
Cambridge, Cambridgeshire

A teacher's charter

I read your advice about "how to turn teaching into a job that attracts high-flyers" ("Those who can", February 14th). I am a teacher with a first-class degree in modern languages from Oxford and a PhD from Cambridge who has worked in a state comprehensive school for 20 years. I did not need to be "lured" into the job by a training programme that flattered my "stellar academic record…leadership, resilience and motivation to help the poor" ("High-fliers in the classroom"). I was attracted by the prospect of a well paid, secure career with a sound pension, and the knowledge that I would help others.

There are many problems in Britain's state schools, not least the fact that the workload has increased to a point where many young teachers leave because they have no private life. I work up to 60 hours a week during term time and 20 days during my holidays. Many teachers do more than that. So in order of importance I would like to share my wish list with you:

1. The freedom to visit the bathroom whenever I need to, in order to avoid the constipation that has now become chronic during term time.
2. On the same theme, a reliable supply of toilet paper in the staff lavatory.
3. An intelligent and perceptive inspectorate (admittedly perhaps an unrealistic dream).
4. A fair and properly run examination system.
5. A review of the prescriptive directives that are slowly turning creative professionals into automatons.

You would be very welcome to see how things work at my school and to meet my excellent and hard-working colleagues, but remember to bring your own toilet paper.

FRANCES HORGAN
Head of German and Latin
Bishop's Stortford High School
Bishop's Stortford, Hertfordshire

Politics in Panama

I was relieved to read that you do not find my record in Panama's politics to be comparable to the late Hugo Chávez in Venezuela ("No Chávez, but no prize", February 7th). A good call on your part, given that my objections to the totalitarian drift in Venezuela caused that country to sever diplomatic ties with Panama under my administration. On the other hand, perhaps you may want to hold judgment on whether I am indeed another "tarnished populist". Relying on facts rather than one-sided opinions may help you get there.

For instance, the mere fact of travelling abroad in one's own plane does not make one a fugitive from justice, as you insinuated. Also, if any wrongdoing did occur on my watch I fully support a thorough investigation, but according to the rule of law. The aim of the current witch-hunt is to destroy me and my party as the only voice of opposition in Panama.

As you rightly pointed out, under my government Panama experienced one of the fastest growth rates in the world, the highest foreign direct investment per person in Latin America and the largest reduction of poverty in its history. If that is the definition of populism you are using, then maybe I will accept the label after all.

RICARDO MARTINELLI BERROCAL
President of Panama, 2009-14
Miami

Creative writing

Your piece on "Authorpreneurship" (February 14th) captured the tectonic shift in the industry that I have experienced in my 21 years as a full-time novelist. Authors have seen a stark transition from appearing on morning television and at bookstore signings to using Google Hangouts and Facebook fan pages. It is now more important to be featured in Amazon's Daily Deal e-mail than it is to be displayed on a front table at Barnes & Noble. Authors can influence their own trajectory by being innovative with social media.

All this is liberating. But the market is now oversaturated with books and there is a heavy burden on writers to find a way to rise above the noise. With novelists spending more time blogging and tweeting and less time writing, the salient question is: has this new reality hurt the art?

ALAN JACOBSON
San Francisco

What's on the menu?

"Pet soup" (February 14th) seemed more concerned with the act of eating dog and cat meat in Vietnam than any actual animal cruelty. Consuming dog and cat meat is a taboo for Westerners who regard them as pets. But eating dog is no more brutal than eating lamb, pig, or other domesticated animals. It is those animals that suffer cruel and inhumane conditions in the West's slaughterhouses.

IVAN IVANOV
New York

Staring out to sea

It is a romantic notion that the Statue of Liberty gazes back across the Atlantic to Europe, where most of America's immigrants came from ("The whole family of man", January 24th). In fact, her gaze is fixed south by south-east which, drawing a line in that direction from her pedestal, would cut through the waters of the North and South Atlantic, bypassing any lands European or African, but perhaps encountering St Helena several thousand miles south of Europe's most southern point. She was positioned to greet all ships carrying immigrants, cargo or otherwise, which enter New York harbour heading north by north-west.

ALEX LADOUCEUR
New York

Engineering humour

If the business world is divided between optimists and pessimists (Schumpeter, January 31st) then perhaps what is needed are more scientists. There is an old joke that goes: to an optimist the glass is half full; to a pessimist it is half empty. To an engineer the glass is twice as big as it needs to be.

DAVID SCOTT
Loughborough, Leicestershire ■

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At first blush, boxing seems to be falling off the radar: long gone are the days of the world champion as household name. Yet a match scheduled for May should raise $400m. When it comes to cold hard cash, the sport is anything but down for the count

Baked Alaska
Smoking cannabis became legal this week in Alaska, the latest state to lift its prohibition of the drug after Colorado and Washington, which took the plunge last year. But two things about the state make it an interesting case study for weed-watchers

The electric car and the oil price
It is widely assumed that tumbling oil prices will put a dent in the sales of electric cars, as internal combustion engines become increasingly cheap to run. But that is the least of the problems faced by these battery-powered vehicles

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The reaction to the movie's release has been much the same as to the book's: a huge commercial success despite the critics' disdain

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"In Massachusetts a ballot question legalised medical marijuana and medical marijuana dispensaries. However, every town I am aware of has resisted locating a marijuana dispensary within the town. People voted for increased marijuana availability but no one wants it available near them." —on "Baked Alaska", February 24th 2015

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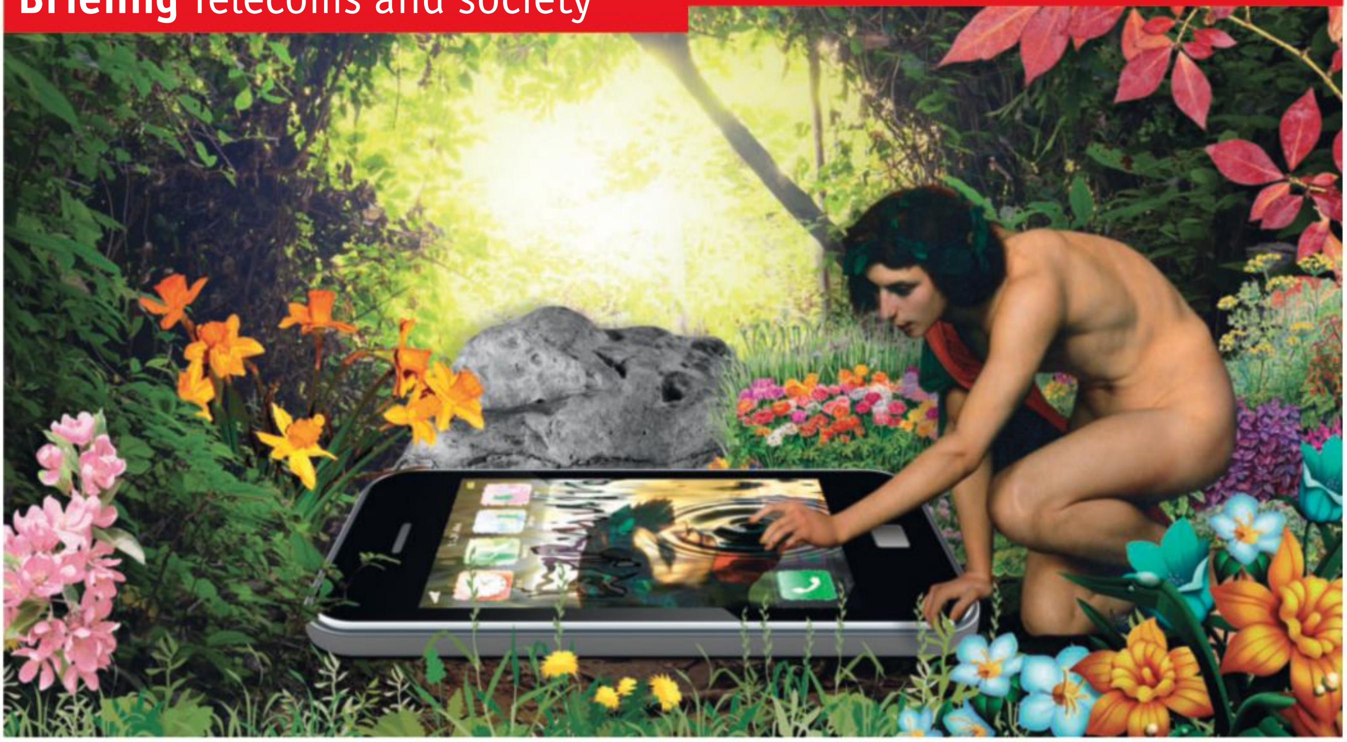


The truly personal computer

The smartphone is the defining technology of the age

THE Ood are an odd bunch. Among the more enigmatic of the aliens regularly encountered in "Doctor Who", a television series about a traveller in time and space, they are mostly silent—though sometimes given to song—and disconcertingly squid-like. What is more, evolution has equipped them with two brains—one in their heads, the other carried around in their hand.

Put an Ood onto public transport anywhere in the developed world, though, and—tentacles apart—he would barely raise a questioning eyebrow. The other passengers would be too busy paying attention to the parts of their brain that they now carry in their hands to notice anything particularly odd about an alien doing something very similar.

There are 2 billion people around the world using smartphones that have an internet connection and a touchscreen or something similar as an interface. By the end of the decade that number looks set to double to just over 4 billion, according to Benedict Evans of Andreessen Horowitz, a venture-capital firm. Already hugely attractive—an estimated 500m will be sold in China this year—smartphones are getting both more useful at the top end and much cheaper at the bottom. The most popular brand in India, Micromax, sells basic models for under $40. Once phones are established in a market the expectation that everyone will have one—what Rich Ling of the Nanyang Technological University in Singapore calls the "mobile logic"—forces them even into initially reluctant hands, making them end up ubiquitous.

The success is not a story of phones alone. From 2009 to 2013 the mobile industry invested $1.8 trillion on improving its infrastructure around the world, according to the Boston Consulting Group. Download speeds have increased by a factor of 12,000 and data rates have dropped to a few cents per megabyte (see chart 2 on next page). Along with Wi-Fi in homes and offices this has made it feasible to add to the phones' own computing power that of data-centres far away. Amazon Web Services, the world's biggest provider of such cloud computing, says it is now adding as much server capacity every day as its e-commerce parent required to run its entire global infrastructure ten years ago.

Sources: Gartner; Strategy Analytics

Let it ring a little longer

By 2020, something like 80% of adults will own a smartphone connected to this remarkable global resource. If they are anything like today's Europeans and Americans, who are leading in these matters, they will use them for about two hours a day; if they are like today's European and American teenagers they will use them more than that. The idea that the natural place to find a computer is on a desk—let alone, before that, in a basement—will be long forgotten.

Like the book, the clock and the internal combustion engine before it, the smartphone is changing the way people relate to each other and the world around them. By making the online world more relevant, and more applicable, to every task from getting from A to B to finding a date to watching over a child to checking the thermostat it is adding all sorts of convenience. Beyond convenience, though, a computer ▸▸

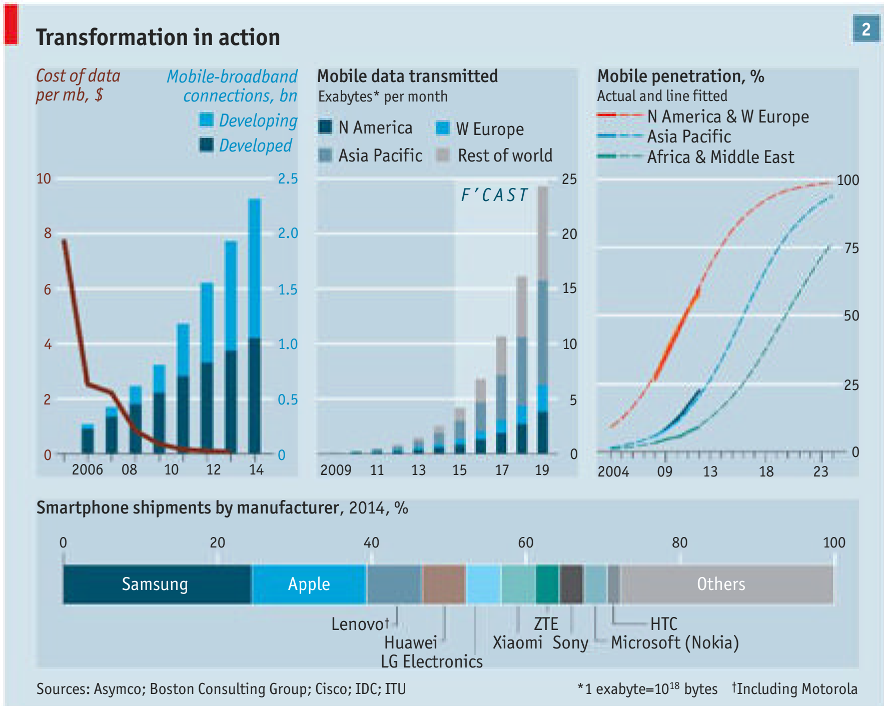
that is always with you removes many previous constraints on what can be done when and where, and undermines old certainties about what was what and who was who. Distinctions that were previously clear—the differences between a product and a service, between a car owner and a taxi driver, between a city square and a political movement—blur into each other. The world is becoming more fluid.

These changes and the tools driving them have refocused the computer industry. Thanks mostly to the iPhone, Apple—not so long ago a maker of niche desktops and laptops—is now worth more than any other company in the world and just had the most profitable quarter in history. Mr Evans reckons that its revenues are now greater than those of the whole personal computer (PC) business. Xiaomi, a fast-growing Chinese maker of smartphones, has become the world's most valuable startup (see page 56). The smartphone has become information technology's key product. It generates the most profits; it attracts the most capital and the brightest brains.

Apple's App Store and Google Play, the equivalent for the Android operating system—which runs on 82% of the world's smartphones, as opposed to Apple's 15%—now offer users more than 3m apps. Apple alone sold apps worth more than $14 billion in 2014. Phones which start off identical—much more so, say, than cars—can thus be customised to meet an almost infinite range of needs and enthusiasms. Cry Translator purports to interpret your baby's mood; RunPee tells you when best to take a toilet break in any film (and fills you in on what you missed).

The fact that they can see and hear, that they know where they are and how fast they are being moved and can sense or infer all sorts of other goings-on increases the advantages that smartphones enjoy over boxes which sit on desks. When's the next bus; what's that not-quite-recognised tune; how much would that conveniently barcoded product cost somewhere else; is that really horse on the menu: the combination of local data and cloud computing answers questions in any circumstance a user might find himself.

As well as letting people do ever more on their phones, apps let them do ever more things off their phones, too. If something can be connected to the internet—be it a door or a fridge or a thermostat—it can be accessed by an app. The phone is thus central to the success of the "internet of things". Wearable technology products—fitness trackers, smart watches, clip-on cameras and the like—will mostly work through the wearer's phone in a similar way. In part this is because giving wearables short-range wireless links to a phone, rather than their own connection to the internet, means that they can be built with smaller batteries and simpler circuits. In



Transformation in action

Sources: Asymco; Boston Consulting Group; Cisco; IDC; ITU

*1 exabyte=10^{18} bytes †Including Motorola

part it is because the phone is already a great way of reading, caching and acting on all sorts of data. The phone can be turned into a remote control for almost anything; you can even add a dog-whistle app to send commands to your pet.

Please check the number

The most famous app-based company, Uber, is valued at $41 billion because of the success it has had in turning the smartphone into a remote control for taxis. The smartphone gives the company's two categories of user—drivers and passengers—the control that they need. And it gives the company's algorithms the data they need, from car positions to customer feedback.

Similar service providers are using smartphones to rejigger local logistics. Over the years many firms have tried to turn the delivery of groceries and other goods into a big business. The latest generation is much more likely to succeed thanks to the smartphones of freelance personal shoppers ready to jump into action should something need to be picked up. Instacart, one of the biggest such services, has contracts with more than 4,000 of them in 15 American cities. It has grown from $1m in revenues in 2012 to $100m last year. Such business models are not without critics; the way that "*Plattform-Kapitalismus*" integrates people's lives and livelihoods ever more thoroughly into a network of market transactions is an increasing concern on the European left.

The new businesses that smartphones and apps allow are not merely extending the internet; they are also reshaping it in a way that some of its current denizens may find hard to live with. One reason Google got itself into the smartphone world with the acquisition and development of Android was to adapt its business to a world of smartphones dominated by another company. When people access the internet with apps on a phone, rather than with a browser on a PC, they experience it differently. The internet looks a lot less like a set of connected pages, and that makes a business that depends on helping people find the page they want—and seeing ads in the process—look less compelling. Smartphone users mostly buy things through apps, not through searches or ads.

If moving to phoneworld has been a challenge for companies born on the web—though Facebook offers an example of doing it successfully—it can be harder still for companies which had only just caught up with the web in the first place. Media companies used to rely on their users going to their websites (though getting them to pay to do so has always been tricky). But people are now finding stuff they want to read or watch through Facebook, Twitter and, increasingly, messaging services. Snapchat, hugely popular among teenagers because it allows them to send pictures that fade away after a few seconds, recently introduced a service called "Discover". It offers articles and videos from CNN, *National Geographic* and others, which disappear after 24 hours. Some publications have already concluded that websites have had their day and are now planning to distribute their wares only directly.

Other disruptions are more personal. As Eric Topol argues in his recent book "The Patient Will See You Now" the relationship between a doctor and a patient is another of the things that becomes more fluid in the age of the phone. Smartphones with the right sensors can collect medically relevant data, from body temperature to blood-glucose levels. They can send pictures of lesions and even double as an otoscope (for ear exams) and other sorts of medical instrument. Dr Topol, a cardiologist and the director of the Scripps Translational Science Institute, predicts this will give rise to "smart patients" who can talk to the doctor on a more equal footing.

Less professional intimacies are also changing. The very local, fluid and action-oriented social networking made possible by apps like Tinder and Grindr is shaking up dating. On Tinder users upload a photo and a short profile and then get shown the pictures of other users nearby. If they like what they see, they swipe a picture to the right—and if not, to the left. If two users both swipe to the right, they can start chatting on Tinder's messaging service and take it from there. The not-yet-three-year-old service is used by more than 30m people a day, who make about 1 billion swipes, leading to 13m matches.

Social behaviour and etiquette have adapted to new technology in the past; they will do so again. At the unconscious level of habit smartphones are already oddly integrated into people's lives. Particular spatial cues—getting into a lift or onto a train, for example—can reliably trigger a check of the screen. A similar effect in toilets is said to be the reason Samsung started making more models waterproof.

A strange sensation

Protecting users may not always be as easy as protecting their phones. Physiotherapists warn of "text neck"; unlike the Ood, humans evolved to keep all their brains balanced on top of their spines, and constantly hunching forward leads to stress and strain. Some psychologists warn of the danger of slipping past habit to addiction. They are warning not just of gambling apps, but of the more general way in which checking a phone, like gambling, is a search for an elusive reward in which every disappointment reinforces the desire to try again. David Greenfield, a psychologist and founder of the Centre for Internet and Technology Addiction, calls them "the world's smallest slot machines".

Teenagers, whose time on phones dwarfs that of their elders (see chart 3 on next page), are developing a social life in which face-to-face and digital forms of contact are used interchangeably and often simultaneously. Manuel Castells of the University of Southern California talks of their phone-based lives playing out in a "timeless time" in which activities and exchanges happen in parallel or even backwards (when people's lives come with timelines, it is a common experience to find out what they said first only after you know what they said next).

That fluidity fits with other notions of the effects that the smartphone's truly personal computing could have. Mechanical clocks allowed the days of the industrial revolution to be regularised in new ways; cars changed the landscape and extended the geography of people's lives; the printed book made human knowledge more accessible, more easily built on and more thoroughly examinable, fixing it in bindings onto shelves. In its present, admittedly early, days the phone seems to permit earlier regimentation to relax. It encourages renting over buying, trying out over tying yourself down, co-ordinating things on the fly rather than in advance.

Recent political protests have taken advantage of the new fluidity. Smartphones have not caused uprisings or revolutions, but they have affected their dynamics: mo-

Smartphone security

The spy in your pocket

Watch out for hackers—and spooks

FEW people had heard of Gemalto, the world's largest manufacturer of SIM cards, until February 19th, when a story on the *Intercept*, a website, put it at the centre of the latest internet-security scandal.

The story, based on documents from Edward Snowden, a former employee of America's National Security Agency, said that spies at GCHQ, Britain's equivalent to the NSA, had stolen hundreds of thousands of the encryption keys hard-coded into Gemalto's SIM cards, which are specialised chips that identify phones to phone networks. Armed with the keys, decrypting conversations and data from the phones in which they were installed would be trivial.

In an announcement made on February 25th Gemalto said that spies probably had tried to penetrate its systems but that there had been no "massive theft of SIM encryption keys". Security experts were sceptical, for a number of reasons: less than a week seems rather quick for such an investigation; government hackers are pretty good at this sort of stuff; and the GCHQ documents provided by Mr Snowden explicitly talk of a "vast quantity of product".

Regardless of its scope, the Gemalto incident is a reminder that security has mostly been an afterthought in a booming industry that has always seen market share as the priority. (The PC industry was just the same in its early days.) The NSA and its counterparts have entire departments thinking up creative ways to break into phones. Fake base stations, which trick nearby phones into connecting to them, are a popular tool with the FBI and other law-enforcement agencies.

Criminals are getting in on the act, too. Despite attempts by Google and Apple to check the bona fides of the apps their stores sell, mobile malware is a growing industry. Last summer security researchers warned about "Simplelocker", a piece of "ransomware" for Google's Android operating system that encrypts users' data and then demands payment to unscramble it—a tactic copied from malware targeted at PCs. Many legitimate apps transmit their data without encrypting it first, allowing anyone so inclined to pluck it from the air and read it.

Consumers have learned the hard way that their PCs are vulnerable, but that realisation has not yet sunk in for their phones. Smartphones use a single cable to charge their batteries and to transfer data. That means that plugging in to unfamiliar charging points can be a security risk. In 2011 pranksters used a gimmicked charger to gain access to 350 people's phones at a conference—which was particularly embarrassing for the victims, as the event they were at was DefCon, the premier meeting for hackers and security professionals.

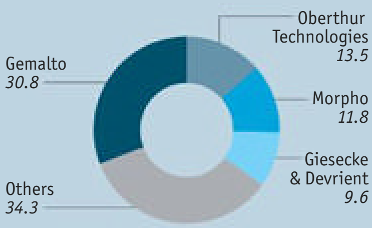
More esoteric attacks are possible, too: a recent paper showed that the motion sensing gyroscopes in phones can be used to record speech even when the phone's microphone is switched off.

Some consumers are aware of the risks. Last summer a firm called Blackphone began shipping an Android handset specifically designed to be as secure as possible. Its initial production run sold out within days. But the Gemalto story, and the fact that security was not built into the system of smartphones from day one, suggest that there is still a lot for the industry and its users to learn.

Tempting targets

SIM card market share

% of total shipments, Jan-Jun 2014



Source: ABI Research

bilising has become much cheaper, centralised organisation less necessary. During recent protests in Ferguson, a suburb of St Louis, Missouri, and Hong Kong, messaging apps were used to co-ordinate activities on the ground in real-time.

A fixed sense of place has still mattered a lot to these movements—witness Kiev's Maidan, Cairo's Tahrir Square, New York's Zuccotti Park, Hong Kong's Civic Square. Protest-movement metonymy of this sort reflects the way that physical space is becoming "a function of the virtual world", in the words of Thomas Sevcik of Arthesia, which provides advice to city governments. The refiguring of public spaces as political platforms reflects the way that the purpose of physical places, be they roads or rooms or buildings, now depends less on where they are and what they were designed for, and more on what is being done with the screens that they contain or that people have brought into them.

Such changes will prove fascinating to social scientists, for some of whom the smartphone has become both telescope and microscope, allowing them to see social phenomena both more precisely and on a grander scale than ever before. Optimists, such as Alex Pentland of MIT's Media Lab, argue that the vast amounts of data phones can provide could underpin a new, predictive "social physics". This new science might be capable of modelling, and thus helping to alleviate, many of the world's problems, from epidemics to violence (and, indeed, epidemics of violence).

Wild time has just begun

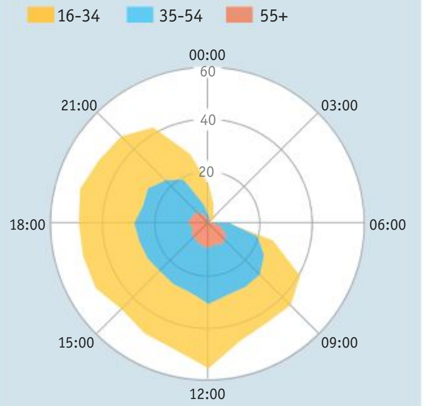
For pessimists, however, smartphones are miniature versions of the "telescreens" in George Orwell's "1984", omnipresent tools which allow the thought police to identify enemies of the state. The security services in democracies have shown a keen interest in the ability to get into as many smartphones as possible (see box on previous page). Those in autocracies are doubtless doing the same. Around the world people are rushing to buy machines through which they can be monitored at previously impossible levels of intimacy—monitored by the state, by companies entrusted with their data, by hackers who steal their information, and by peers who just see what has been posted.

Phone-based social media, messaging services and other apps already make people's lives more public. Hacks into the cloud have been exposing parts of people's phone-based lives they would rather have kept private. Democracies may be able to find acceptable solutions to some of the problems posed. Mr Pentland calls for a "new deal on data", which would include giving individuals clear rights on their personal data and allow them to better control how the information is used. In "The Black Box Society" Frank Pasquale of the University of Maryland argues for more transparency in the use of data both by governments and companies—and limits on the uses to which they are put.

Never gonna put you down 3

Use of smartphones by age group

% reporting use by hour of the day, over a week*



*1,644 British adults surveyed between Feb-Apr 2014

Source: Ofcom

There are technical fixes to some problems. California now insists that smartphones have "kill switches" that allow their owners to lock their devices from afar if they get stolen, thus reducing their value to thieves and protecting the data they could be used to access. The latest versions of both Apple's iOS and Google's Android automatically encrypt user data on smartphones in such a way that only the user can decrypt them.

Perhaps the most fundamental question about the fluid world of the smartphone is whether its currents will, in general, bring people together or move them apart. The Ood-ignoring, text-neck-risking screen-focused commuters on trains and buses seem even more isolated from each other than they used to be. In 2013 security footage on a San Francisco Muni train showed a number of passengers failing to notice a man playing with a pistol until he shot someone. The title and tagline of a book by Sherry Turkle of MIT seem to sum up something real: "Alone Together—Why We Expect More From Technology and Less From Each Other".

Then again, the devices really do bring people closer together. They do it casually, by ensuring that there is always someone to play a game with, or indeed hook up with. They do it commercially, matching people needing jobs to people wanting them and people with goods to sell to people who want to buy. They do it impersonally, with celebrity selfies sent to huge numbers of followers, and they do it intimately, with near-constant conversation within families and lifelong links to friends you might otherwise have lost. They may do it in a way that lets people exclude voices that challenge them; they may do it in ways that are unutterably banal. They may do it differently according to age and gender—some research suggests that, at least in some cultures, women use phones to enrich and strengthen existing social bonds by sharing photos and the like, while men use them to create new, weaker bonds based on shared interest. But they do it nonetheless.

The new computing's tendency to the fluid will, in all likelihood, mean that the current form of the phone will not last forever. The truly personal computing phones make possible, though—the sort which adapts you to your surroundings and vice versa—seems sure to persist. People will live in perpetual contact both with each other and with the computational power of the cloud.

The Ood, it is worth remembering, did not just have two brains, one in the head and one in the hand—they had a third, planetary brain, telepathically shared by all. It may yet be to such a world that, with phones in hand, pocket and purse, humanity makes its way. ■

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CHICAGO AND INDIANAPOLIS

Talk of a renaissance in American manufacturing is overblown

AT A gleaming Rolls-Royce factory in Indianapolis (above), a team of workers produces "LiftFans", gadgets that help fighter planes take off and land without needing much of a runway. This plant is a far cry from the hot, smelly, noisy places that people normally associate with manufacturing. Workers in goggles hand-build the LiftFans, which sell for millions of dollars, with the help of state-of-the-art machinery. Computers quietly hum. The atmosphere is disarmingly serene.

America has some of the world's most impressive manufacturing facilities. But talk of a "renaissance" is certainly overblown. Growth is being driven by a small number of industries, which are hiring few new workers. And even high-tech operations, at which America should excel, are struggling.

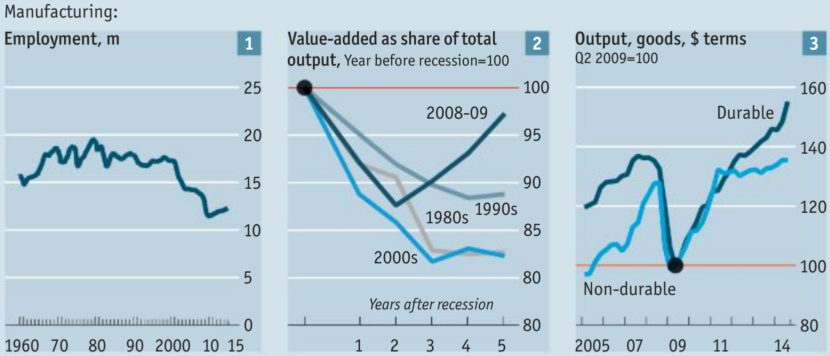
Manufacturing's golden years were the late 1970s, when employment in the sector hit nearly 20m (see chart 1). That was a fifth of the labour force at the time. From then until the millennium, though, the number of jobs dropped by around 2m. Foreign competition, from Japan and especially China, took its toll. One paper found that a quarter of the employment decline in American manufacturing from 1990 to 2007 was caused by Chinese import competition. Then the recession came, which for many firms proved a killer blow. At its nadir in 2010, manufacturing employed 9% of the labour force.

When the recession ended in mid-2009, the stage seemed set for a turnaround. From 2009 to 2013 manufacturing workers became cheaper relative to the private-sector workforce as a whole; after taking inflation into account, average hourly earnings in manufacturing were flat. The boom in cheap shale gas has boosted investment in new factories. Meanwhile, Chinese wages have been rising fast. And until recently the dollar was weak, which made American exports more competitive. No wonder, then, that stories abound of big companies bringing factories back to America. According to a paper from the International Monetary Fund (IMF), America's manufacturing output bounced back from the recession of 2008-09 faster than after other recent ones (see chart 2). There have been 18 straight months of job growth in manufacturing.

Those who long for a new wave of industrialisation in America will cheer. What they have in mind is better pay. Since wages tend to track productivity, many of those working in factories earn more than their peers in shops and restaurants. Economists at the Brookings Institution, a think-tank, analysed wages in manufacturing and non-manufacturing jobs between 2008 and 2010, controlling for factors that influence earnings, such as sex and education. After doing so, they found that manufacturing workers earned a weekly average of $605, 8% higher than those in other in- ▸▸

Anatomy of melancholy

Manufacturing:



Sources: Bureau of Economic Analysis; Bureau of Labour Statistics; Haver Analytics; IMF dustries. Others reckon that a thriving manufacturing sector would boost America's exports. MIT's Task-Force on Production and Innovation suggests that if America is ever to reduce its gaping trade deficit, manufacturing needs to do well.

No exceptionalism

Certainly, bits of America are great at making things. Indiana is bursting with high-tech factories like the Rolls-Royce plant. But dig a little deeper, and the figures are not so good. During the recession, as usual, durable and non-durable goods behaved in different ways. Production of durable goods—cars, furniture, appliances and so on—plunged (see chart 3). That was unsurprising, since it is fairly easy to put off buying such things. After the recession, people made up for lost time. By mid-2013 output of durables had passed its 2007 peak. Meanwhile, non-durable goods—groceries, clothes, chemicals and textiles, purchases of which are harder to postpone—were less volatile.

However, the past few years have seen exaggerated performances from both sectors. According to an IMF paper, the recovery of the non-durables sector was weaker than after the recessions of the early 1990s or early 2000s. Durable goods did better: the recovery in output beat those seen after the previous two recessions.

The boom in the durables sector, though, is largely owing to a few industries. Cheap credit, for instance, spurred demand for new motors and rapid growth in carmaking. That sector accounted for over a third of durables growth from 2009 to 2013. (Others, like furniture and computer-manufacturing, barely grew.) This reliance on the American consumer's appetite for new stuff is worrying, says a report from the Information Technology and Innovation Foundation, a think-tank. It suggests that when pent-up demand is satisfied, a few big industries will suffer. At that point, overall output is likely to stall.

Data on jobs also suggest that manufacturing is not entering another golden age. That is less surprising, since with better technology manufacturing is becoming ever less labour-intensive. Nonetheless, the post-recession rise in manufacturing employment is one of the weakest in memory. According to the Economic Policy Institute, a think-tank, if employment had followed the trend of the average recovery in the years since 1945, then an extra 1.2m manufacturing jobs would have been created by the third quarter of 2014. In fact, 800,000 or so appeared. Manufacturing-job growth, though it has seen a few brisk years, has barely kept up with that of the workforce as a whole.

Trade optimists will hope American industry shifts towards its relative strengths. As leaner and meaner firms emerge from the ashes of the recession, the argument goes, America will shed low-tech industries and excel at the fancier stuff. It already relies heavily on "advanced manufacturing"—activities that involve lots of science and maths. That sector's output in 2013 was well over $1 trillion. Exports of this sort reached $900 billion each year, accounting for nearly half of America's total.

But even here, all is not well. In a few advanced industries, notably aerospace and industrial-machine production, America exports more than it imports. But many industries that have been strong historically are now running big trade deficits: America imports about $40 billion more in pharmaceuticals than it exports, and a similar gap appears in semiconductors. Other areas of supposed expertise, like communications equipment and computers, run even bigger deficits. If America cedes leadership in advanced industries, says Mark Muro of Brookings, it will struggle as the best innovation, labour and investment go elsewhere. That may be happening now: since 2000, advanced-manufacturing jobs have dwindled as a share of America's total employment.

A few things must happen for manufacturing to flourish. The 2015 Economic Report of the President, released on February 19th, suggests reforming the tax system, which hits manufacturing firms hard. Mr Muro hopes the federal government will double its investment in basic research and development, as Barack Obama has promised. And schools and colleges need to improve. America ranks a miserable 13th in the OECD, a club of mostly rich countries, in the proportion of the population graduating in science, maths and engineering. Without big improvements, manufacturing will soon flounder again. ■

Republican hopefuls

A winner from Wisconsin?

LONDON AND WASHINGTON, DC

Scott Walker's is the latest name to conjure with

IN HIS book, "Unintimidated", written after winning a recall election in 2012, Scott Walker, the Republican governor of Wisconsin, linked his victory to the fact that "we took our message to the persuadable segment of the electorate, and persuaded them." If Mitt Romney's campaign to become president that year had been as effective, Mr Walker added, "he might be sitting in the Oval Office today."

He now seems keen to succeed where Mr Romney failed. Among the many Republicans jostling elbows ahead of next year's campaign, Mr Walker has excited some of the biggest press coverage of late. He has also opened campaign offices in Iowa, attended dinners in New York and flown to London (ostensibly to sell Wisconsin's famous cheese) to boost his foreign-policy credentials. Donors are filling his war-chest, and polls in early-primary states suggest that together with Jeb Bush, the favourite of the party establishment, he is building momentum.

Selling more than cheese

His pitch is fairly clear. Mr Walker is an uncompromising conservative from a swing state and a modest background. He can please both the Tea Party and the religious wing of the Republican Party. His re-election campaign in 2014 focused on attacking leftwingers in Washington as well as in Milwaukee and Madison, the two biggest cities in Wisconsin. In 2011 he pushed through tough curbs on Wisconsin's public-sector unions; in the years since, union membership in the state has fallen dramatically. He has also brought in laws to restrict abortions.

Recently he has picked a fight with the state universities in Wisconsin. In his proposed budget, he wants to cut $300m over two years from their funding. He has also proposed (accidentally, he says) to rewrite the mission statement of the University of Wisconsin, putting economic development ahead of loftier notions about searching for truth. Taking on state universities—often seen as bastions of liberal privilege by conservatives—is just the sort of red-blooded idea that might appeal to Republican primary voters. He has also bashed unions some more by promising to sign a law prohibiting businesses from forcing employees to pay union dues.

Yet in other ways Mr Walker has been careful not to reveal himself. In London he punted on foreign policy (even when speaking at a foreign-policy think-tank). In New York, he passed on whether or not he agreed with Rudy Giuliani, a former mayor of the city, that Barack Obama does not love America. And in Washington he refused to say whether he thought the president was a Christian. In part, he is resisting journalists' "gotcha" tactics; in part, he is just avoiding difficult questions.

Although he has won three elections as governor, none was held at the same time as a presidential poll (when turnout usually leaps). His record is also mixed. His cuts to university budgets have upset even some Republicans, though they have been forced on him by the $2 billion budget deficit the state faces. His tax cuts have not produced revenue, as he promised.

For the moment, however, that seems unlikely to hurt him much. At this stage the pressure is on winning financial and practical support from donors. Mr Walker offers a mix of plausibility and ideological purity. And with little else happening in gridlocked Washington, political obsessives need something to feed on. ■

The Illinois budget

Averting doomsday

CHICAGO

Bruce Rauner is trying to fix the finances of America's worst-run state

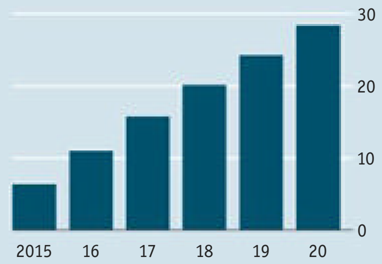
THE Scott Walker model of tough-it-out conservatism (see previous story) may be proving most influential in a neighbouring state. The new Republican governor of next-door Illinois, Bruce Rauner, has just signed an executive order ending mandatory union fees for state workers who do not want to join a union or support its agenda. And on February 18th, as part of his $31.5 billion budget plan, Mr Rauner proposed savings of $6.7 billion in state spending on health care for the poor, pensions for public workers, local government and universities. His aim, he said, was to present a budget that "lives within our means—without raising taxes or relying on irresponsible borrowing".

Illinois has overspent and borrowed recklessly for years, and is now in the biggest fiscal mess of any state in the country. It has the most underfunded retirement system of any state, amounting to $111 billion in unfunded pension liabilities, as well as the highest pension burden relative to state revenue. Its credit rating is the lowest of all the states, which means dramatically higher borrowing costs. "Drastic measures are needed," says Christopher Mooney of the Institute of Government and Public Affairs at the University of Illinois, Chicago, who thinks the governor's "doomsday budget" was meant to get people's attention.

Piles of debt

State of Illinois backlog of unpaid bills, $bn

Forecast, based on current policy



Fiscal years ending June 30th

Sources: Governor's Office of Management and Budget; The Civic Federation

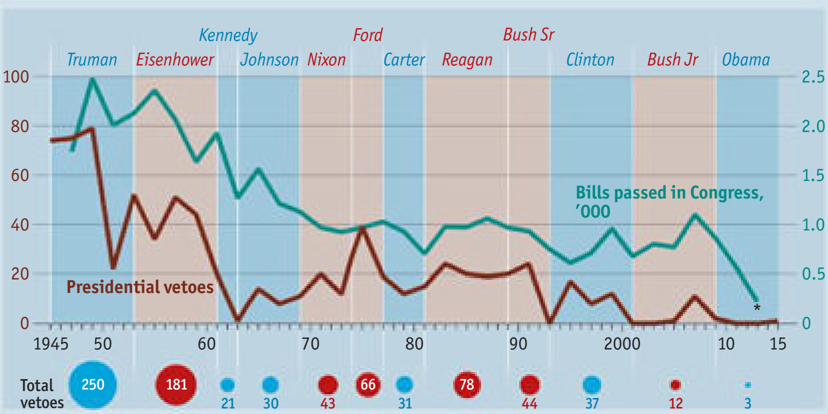
Yet unlike Mr Walker, who can count on support from a Republican majority in both houses of the Wisconsin legislature, Mr Rauner faces a veto-proof majority of Democrats in both houses. "This budget is not politically viable," says David Merriman of the University of Illinois. In particular, he adds, the big cuts in pension benefits and in the Medicaid programme, which handles health-care costs for the poor, will never get through. Mr Rauner hopes to save $2.9 billion by moving all state workers into the less generous pension plan that legislators approved in 2010 for state employees hired after January 1st 2011. And he wants to slash spending on Medicaid, which has already been squeezed, by a whopping $1.5 billion.

The governor's pension reform is different from the overhaul passed in 2013 by lawmakers under Pat Quinn, his Democratic predecessor, which would have reduced annual increases in pension payments, raised the retirement age and capped pensionable salaries. A circuit judge struck down the Quinn reform, saying it violated the state constitution. The case is now before the Illinois Supreme Court, which is expected to rule the same way. The Rauner camp claims that his pension proposal can withstand court challenges, but most experts expect it too to run into legal trouble.

In the next few months the governor will have to negotiate with legislators to craft a budget that all sides can live with. If he wants to balance the books he will have to raise taxes, however unpopular that may make him with his Republican base. Supporters of Mr Rauner's tough course say that small-scale pension reforms and tax increases simply won't be enough to solve Illinois's gargantuan problems, and would make the governor a lame duck. ▸▸

With a stroke of the pen

George Washington issued America's first presidential veto in April 1792, having "maturely considered" that a bill to increase the number of seats for northern states in Congress was unconstitutional. This week Barack Obama vetoed the third bill of his presidency, thereby probably killing the controversial Keystone XL oil pipeline. With no love lost between Mr Obama and Congress, it may seem surprising that this is just his third veto; but Congress is passing fewer bills, and has sent precious little his way recently. That may change as the newly empowered Republicans send over bills on Iran, Obamacare, climate change, immigration and other contentious issues. Even then, Mr Obama is unlikely to reach the veto-happy heights of Grover Cleveland, who quashed 414 bills between 1885 and 1889. Half of those were dubious payments to veterans of the civil war in an attempt by congressmen to win "the soldier vote".



Sources: US Senate; Brookings Institution

*First session of Congress only

The Civic Federation, a budget watchdog, suggests even sterner measures. They include getting rid of the tax exemption for retirement income, excluding Social Security payments and pension income of less than $50,000 a year. Mr Rauner should also tax 32 professional services that are currently untaxed, says the federation, and repeal the state's sales-tax exemption for food and non-prescription drugs until the $6.4 billion backlog of unpaid bills is gone.

After years of mismanagement, Illinoisans are keen on change. A Gallup poll last year found that one in four of them believes their state is the worst to live in; about half of them said they would leave if they could. Only 28% of respondents said they trusted their government, compared with 60% nationally: fair enough, in a state where four of the last seven governors have ended up in jail. If the new governor turns Illinois round, as he promises, he will be a hero, says Mr Mooney. At this point, that is a very big "if" indeed. ■

Religious discrimination

Dress codes

WASHINGTON, DC

Can a Muslim woman be denied a job because of her headscarf?

SAMANTHA ELAUF, a young Muslim woman, did well in her interview for a job at a children's branch of Abercrombie & Fitch, a casual-clothing store, in Tulsa, Oklahoma. But when the interviewer told a manager about Ms Elauf's black headscarf, she was instructed to lower the applicant's "appearance" score and deny her the job. According to the company's "look policy", employees must align their dress with the "preppy look of the Ivy League" and must not wear "caps" or black clothing. In fact Abercrombie is best-known for the half-naked (but preppy) hunks that adorn its shopping bags.

Ms Elauf turned to the Equal Employment Opportunity Commission (EEOC), which sued the store on her behalf. A federal district court in Oklahoma ruled that in refusing to hire Ms Elauf because of her religious practice, Abercrombie had violated Title VII of the Civil Rights Act of 1964. On appeal, the Tenth Circuit Court held for the company. If Ms Elauf wanted a religious accommodation, the appeals court said, she should have asked for it.

On February 25th the Supreme Court heard arguments in the case. The chief justice, John Roberts, worried that the EEOC's view would lead an interviewer to grill a bearded applicant with a "Middle Eastern appearance" about possible "religious reasons" for his facial hair while asking no other applicants about grooming. "It seems that your solution causes more problems," he told the government's lawyer.

The toughest question for the other side came from Justice Samuel Alito, author of a decision earlier this term protecting the right of a Muslim inmate to grow a beard. Imagine that "a Sikh man wearing a turban", "a Hasidic man wearing a hat", "a Muslim woman wearing a *hijab*" and "a Catholic nun in a habit" come in for an interview. In order to be accommodated, would these individuals have to say, "I'm dressed this way for a religious reason"? Abercrombie's lawyer admitted that some "religious outfits" are "more obvious than others". But the significance of Ms Elauf's headscarf, he said, was "ambiguous".

Putting the onus on employers without "actual knowledge" of applicants' religious scruples would be "unadministrable", the store's lawyer argued, and would lead to stereotyping. The government's lawyer disagreed: the interviewer just needed to explain the "look policy", and ask applicants if they had trouble complying with it. Most of the justices seemed to sympathise with Ms Elauf. A decision is expected by the end of June. ■

Not much covering here

Energy controversies

A frack too far

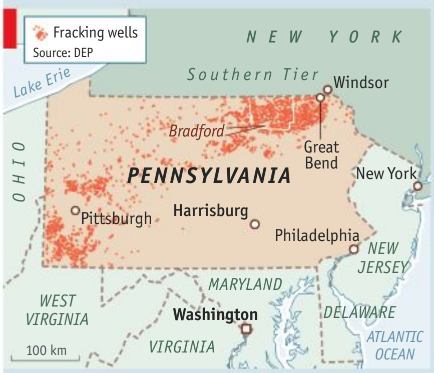
WINDSOR, NEW YORK

Yearnings to tap gas threaten to split a state in two

"I HONESTLY thought it was a joke," says Sandy Pinney. She means the threat that Windsor, her hometown, along with 14 other towns along New York's border with Pennsylvania, may secede and join Pennsylvania. But it is deadly serious.

The towns are in New York's Southern Tier. They sit on top of the Marcellus Shale, which is full of natural gas. New Yorkers, unlike their Pennsylvanian neighbours, are not allowed to tap the gas because of a state ban on hydraulic fracturing (fracking) announced by Andrew Cuomo, the governor, on December 17th.

Hours later on the same day, a state panel rejected a bid to build a casino in the Southern Tier. That was the last straw. A state lawmaker sent a survey to constituents asking about secession, and the idea began to take hold.



The Southern Tier used to be called the "Valley of Opportunity", with companies like IBM employing thousands. But the area's big employers left or downsized long ago. The economy is stagnant, with houses for sale everywhere. Windsor cannot afford a police department. Even its funeral homes are long gone. Meanwhile, just yards away in Pennsylvania, Great Bend is thriving. The neighbours have new cars, freshly painted houses and jobs, and all from shale. Penn State's Centre for Economic and Community Development found that taxable income increased by 25% between 2007 and 2011 in Bradford County, where most of the Marcellus fracking takes place. Envious, frustrated Windsor wants to be in the same boat.

Secession is unlikely. It would need approval from the New York and Pennsylvania legislatures, as well as Congress. It might be easier if, as some suggest, New York state were just split into two autonomous regions. New York City, Long Island and Westchester would be one region and everything else would become "New Amsterdam", a nod to New York's original Dutch name. That would stop the downstaters calling all the shots.

Calls to divide New York are not new. In 1969 the writer Norman Mailer ran for mayor of New York City on a pledge to make it the 51st state. The only effort that succeeded was in 1777, when a chunk of upstate New York became Vermont.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Lexington | Justices on the stage

Why Americans are increasingly fascinated by their highest court

NEAR the start of "The Originalist", a new play about Justice Antonin Scalia of the Supreme Court, the judge is shown boasting that he could beat any liberal at poker, not least President Barack Obama. In card games as in life, left-wingers "lack ruthlessness when the stakes are high", the actor playing Mr Scalia explains to Cat, a left-leaning young woman he has just hired for the nerve-racking post of his law clerk (a prestigious job reserved for clever high-flyers).

There is a lot of bombast in the play, which opens in Washington on March 6th. The fictional Mr Scalia—in real life the outspoken, caustic 78-year-old leader of the court's conservative wing—prowls round his chambers, fists balled like a prizefighter, sparring with Cat about his views on gay marriage (bad), abortion (worse) and the death penalty (a fitting punishment for wickedness). In each case he is a swaggering, doubt-free spokesman for "originalism". According to that doctrine, the constitution keeps the meaning it had when it was first adopted. Originalists hate it when modern judges treat its text as a "living" document, guaranteeing a panoply of rights that changes with the times.

In final rehearsals at Arena Stage, a large drama centre specialising in new works, Edward Gero, the actor playing Mr Scalia, is to be seen flatly telling his law clerk that Americans will "never" seriously restrict gun ownership, not least because of their deep distrust of the federal government and its own arsenals of weaponry. Moments earlier Cat (played by Kerry Warren) has told him of a family connection to a shooting massacre that left her a passionate believer in gun control. Her boss is unyielding. The constitution clearly guarantees a right to bear arms, he growls, and "passion is no match for the text."

In short, there is much to provoke theatregoers in a capital city where Democratic voters (and federal bureaucrats) greatly outnumber fire-breathing conservatives. Yet in the Washington of 2015, staging a play about Mr Scalia makes perfect sense. Indeed, "The Originalist" will be followed this July by the premiere of "Scalia/Ginsburg", a comic opera about the conservative judge and his deep-if-improbable friendship with Justice Ruth Bader Ginsburg, the 81-year-old leader of the court's liberal wing. The two justices, both opera buffs, praised extracts from the work after they were performed in a recital at the court. Drawing freely on the plots of "Don Giovanni", "The Magic Flute" and other classics, the opera shows them imprisoned by a talking statue and forced to work together on three tests to gain their freedom.

There are several reasons why it makes sense to put a judge like Mr Scalia on stage. For one thing, the Supreme Court often finds itself pondering knotty problems which other countries ask parliaments to resolve. In just the next few months the court's nine justices could issue rulings that preserve or dismantle a big plank of the Obamacare health law and make gay marriage legal in all 50 states.

For another thing, in the space of a generation or two, originalism has moved from the fringes of legal scholarship to being a mainstream conservative belief. Pugnacious, eloquent Mr Scalia can take much of the credit for that. He does not win all his fights—indeed, when the court finds that the constitution protects the right of gays to marry, as seems likely, it will be a clear defeat for originalists. But even when he loses, Mr Scalia's blistering written dissents are headline news. In 2013 he accused his fellow justices of plotting a "black-robed supremacy" when they struck down a law passed by Congress in the 1990s that attempted to grant primacy to heterosexual marriage. In other dissents he has accused his unelected colleagues of "tsarist arrogance" and "preposterous" reasoning. Derrick Wang, the composer of "Scalia/Ginsburg", was studying Scalia opinions at law school when he decided that the stormy, raging words before him deserved to be an operatic aria. John Strand, the Washington-based author of "The Originalist", declares Mr Scalia a natural showman. Both justices have sizeable student followings on college campuses and in law schools; the best known Ginsburg fan blog is called "Notorious RBG", in a play on the name of the late rapper, "The Notorious BIG".

The odd couple

But something else explains the flurry of interest in them, and it is linked to disgust with contemporary politics. Too often, folk on right and left refuse to concede that some problems are hard, so that reasonable people disagree about how to solve them. Partisans even refuse to admit that they are partisans, with biases and preferences born of character, upbringing and experience. Instead, politicians pose as objective seekers after truth, the better to portray their opponents as fools, knaves or dupes (or all three), whose facts cannot be trusted and whose motives are suspect.

The Supreme Court may have clear conservative and liberal camps. Its justices attack one another in ferocious written opinions. But even such polar opposites as Justices Scalia and Ginsburg do not think that the other is stupid. Instead they acknowledge that they simply see the world differently. "What's not to like—except her views on the law?" Mr Scalia asked at a recent joint appearance.

In real life Mr Scalia has hired several liberal law clerks over the years. Researching "The Originalist", Mr Strand interviewed ex-clerks who disagreed with almost every judgment made by the conservative justice, yet called him witty, erudite and affable. "One liberal clerk said, he's the best boss he will ever have," says Mr Strand. His play presents the old justice as a gruff but ultimately kindly mentor. It does not show Cat converting Mr Scalia: it is a work of fiction, not an outright fantasy. But it does show two clever people listening to each other, even as they argue. In today's Washington, too often filled with dialogues of the deaf, that makes it a timely, almost revolutionary work. ■

Also in this section

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Venezuela's regime

Tyranny looms

CARACAS

Faced with growing unrest and the prospect of losing parliamentary elections, the president is ratcheting up repression

IT WAS a military-style operation, of the kind you would mount to collar a dangerous drug lord. On the afternoon of February 19th dozens of agents of Venezuela's state security service, Sebin, armed with automatic weapons and a sledgehammer (but no arrest warrant) burst into a suite of offices on the sixth floor of a tower block in El Rosal, a normally quiet district of Caracas. Their quarry was not some villain but the 59-year-old mayor of metropolitan Caracas, Antonio Ledezma. After a day and a half in Sebin's custody he was sent to a military jail to await trial on charges of conspiring to overthrow the government of Nicolás Maduro, Venezuela's president.

This is not the first time the left-wing regime has locked up a prominent member of the opposition. Among Mr Ledezma's fellow inmates is Leopoldo López, who spent much of last year in solitary confinement on similar charges. The arrest of an elected mayor (though one whose powers had been much reduced by the government) marks a clear escalation in the regime's campaign of repression.

The provocation was the publication of a one-page advertisement in an independent newspaper, written by Mr Ledezma, Mr López and María Corina Machado, another confrontational opposition leader, calling for the establishment of a broad-based transitional government (and, by implication, for Mr Maduro's resignation). That, said the president, was the prelude to an attempted coup, the latest of a dozen such plots that he imagines have been hatched against him. The government has also linked Julio Borges, a moderate who leads the biggest opposition party, Justice First, to the alleged coup plot. It is moving to expel him from parliament.

The real reason for the crackdown is probably the president's mounting fear that he could soon be ousted from power legally. He was elected by a slim margin in April 2013, after his predecessor and mentor, Hugo Chávez, died of cancer. Since then, conditions in Venezuela have worsened dramatically. The government's ruinous policies have led to shortages of food and medical supplies, long queues at shops and soaring inflation. The collapse in the price of oil, virtually the only source of foreign exchange, means that the regime cannot buy its way out of trouble. Mr Maduro's personal approval ratings are little higher than 20%. Under the constitution, the government must hold parliamentary elections this year. If the opposition wins, that would improve its chances of being able to hold a referendum to recall the president in 2016. Mr Ledezma's arrest and Mr Borges's impending expulsion from parliament suggest that the government has no intention of allowing that to happen.

The crackdown goes much further. According to Carlos Ocariz, the head of the Venezuelan Mayors' Association, 33 of the 78 opposition mayors elected since December 2012 face legal proceedings of some kind. Ms Machado is one of four opposition legislators (out of a total of 63) who have already been barred from parliament. A score of dissident leaders are in exile. Copei, a Christian democratic party, said on February 23rd that armed men had occupied a dozen of its offices as it prepared to endorse the proposal for a transitional government. Even ordinary citizens known to oppose the regime are barred from public-sector jobs or government benefits. One recent applicant for a government job says she was asked whether she belonged to a political party, "and if so, which one?"

The demand for Mr Maduro's immediate resignation and a transitional government is controversial within the Democratic Unity alliance (MUD), a loose and sometimes fractious grouping of opposition parties. Its authors were the leaders of demonstrations against the government a year ago, which resulted in the deaths of 43 people, from both sides of the political divide. Mr López was arrested at the outset of the protests. Moderates like Mr Borges and Henrique Capriles, who lost to Mr Maduro in the 2013 presidential election, were opposed to them.

Some think the mayor's arrest is meant to provoke a reprise of the demonstrations, which briefly boosted Mr Maduro's popularity and would provide an excuse for further repression. If that was the plan, the opposition is too canny to fall for it. Violence would "lead nowhere", wrote Mr Ledezma from prison. Ordinary Venezuelans have been holding protests against the regime; on February 24th a teenager was killed in one organised by students, apparently by a policeman's rubber bullet. But demonstrations against the mayor's arrest, like the one shown above, have been small.

Although there is disagreement over ▸▸

tactics, the MUD is united on the need to gain power democratically. Immediately after the mayor's arrest the MUD announced that it would hold primaries in May to select candidates and demanded that the electoral authority—controlled by the government—schedule a date for the election.

The MUD's bet on democracy would be slightly less quixotic if Venezuela's neighbours and regional organisations were willing to apply serious pressure on the regime. Until now, they have mostly looked away while the *chavistas* suffocated dissent. The Organisation of American States, for example, has rejected calls by the opposition to debate Venezuela's violations of the group's democratic principles.

Mr Maduro's latest crackdown is provoking more concern. A statement from Brazil, though mealy-mouthed, shows it is worried. The foreign ministers of Brazil, Colombia and Ecuador are to visit Caracas. They and other foreign ministers of the South American Union will then meet to discuss solutions to the crisis. If the slide to dictatorship is to be reversed, Venezuela's neighbours need to discover some backbone. They have shown little so far. ■

Brazil's liberals

Niche no longer

SÃO PAULO

Thatcherism is winning adherents

AMONG the buskers on Avenida Paulista, São Paulo's main thoroughfare, one act stood out on a recent Friday afternoon. A live rock band played spiffy renditions of "Blue Suede Shoes" and other 1950s classics; between numbers, six panellists sang the praises of competition and fielded questions from 100-odd onlookers about such issues as transport prices. The event was organised by the Free Brazil Movement (MBL), a group founded last year to promote free-market answers to the country's problems. The al fresco concert-cum-colloquium was a riposte to demonstrators who took to the streets a half-dozen times in January to demand free bus transport. A better idea would be to open bus services to competition among private firms, which would improve quality and lower costs, the MBL-ers claimed.

Although Brazil thinks of itself as a "tropical Sweden", advocates of freer markets and a less intrusive state are making headway. Of the 50 organisations that belong to the Liberty Network, an umbrella group, all but a handful were founded in the past three years. A "liberty forum" in April is expected to draw some 5,000 South American freedom-lovers to Porto Alegre, a southern city. This year's theme, inspired by the *Charlie Hebdo* murders, is freedom of expression.

Soon such folk will have a new political party to represent them. Called simply Novo ("new"), the party stands unabashedly for free markets, a minimal state, low taxes and individual liberties. This would extend Brazil's narrow political spectrum. The Workers' Party of the president, Dilma Rousseff, is decidedly left-wing. The main opposition party, the Party of Brazilian Social Democracy (PSDB), is friendlier to markets but, as its name suggests, it is by no means Thatcherite.

Novo sounds like it will be. Its president, a banker called João Amoêdo, calls for privatisation of state-controlled enterprises such as Petrobras, an oil giant in the midst of a corruption scandal. The fledgling party has submitted the 492,000 notarised signatures needed to register with the electoral authority. Mr Amoêdo hopes for approval in March; it plans to field candidates in next year's local elections. A new liberal force could provide fresh answers to the country's increasingly difficult economic plight (see page 63).

Novo's brassy brand of liberalism is still a minority taste. Many Brazilians associate the liberal reforms enacted when the PSDB was in power in the 1990s with the short-term pain they caused rather than the long-term stability they secured. At the University of São Paulo, the loftiest of Brazil's ivory towers, microeconomics courses dwell on market imperfections while neglecting government failures, laments Fabio Barbieri, who teaches the subject.

The social-science section of Livraria Cultura, a famous bookshop on Avenida Paulista, displays freshly printed copies of Karl Marx's "Capital" but carries nothing by John Stuart Mill, his great liberal contemporary. After the military coup of 1964 "we were all deformed by revolutionary Marxism", says Eduardo Giannetti, a liberal economist (his 29-year-old son was among the Paulista panellists). For decades a cartelised capitalism, protected by the state, kept products shoddy and prices high, which did not help the private sector win friends.

But opinion may be shifting. Brazilians have long been open-minded about gay rights and immigration (but not legalisation of drugs). A poll by Datafolha, a research firm, published in September found that 30% are sceptical about state intervention and tax-and-spend policies, up from 26% a year earlier. In October's presidential election Ms Rousseff defeated her challenger, the pro-business candidate of the PSDB, only narrowly. These are hopeful signs for liberals. But it will be some time before "let's introduce competition into public transport" drums up the same enthusiasm as "free tickets". ■

Canada's Inuit

A long road home

OTTAWA

Reclaiming human remains kept in foreign museums is not easy

IN AUGUST 1880, eight Inuit from Canada's north-eastern coast agreed to travel to Europe to be exhibits in a human zoo. They soon died of smallpox, pining for home. The skeletons of Abraham Ulrikab and most of his companions were recently rediscovered, fully mounted for display, in the storerooms of a French museum. Inuit elders want their remains, and those of others who died far from northern hunting grounds in the 19th and 20th centuries, to come home. It will not happen quickly.

The government of Nunatsiavut, an Inuit region of northern Labrador established in 2005, has already taken back human remains from museums in Chicago and Newfoundland. David Lough, Nunatsiavut's deputy minister of culture, is not sure how many more there are to be reclaimed. But in 500 years of contact between Labrador and the outside world, many people and artefacts are bound to have ended up abroad, he believes. One woman, Nancy Columbia, was part of a group showing off Inuit culture at the Chicago World's Fair and found her way to Hollywood, where she starred in westerns as a Native American princess.

Until recently, museums resisted giving back human remains, in the name of science and cultural preservation. The British Museum's Egyptian mummies and the Amazonian *tsantsas* (shrunken heads) in Oxford's Pitt Rivers Museum are mainstays

The comforts of home

of their collections. But, under pressure from indigenous groups, they have begun to give way. The UN Declaration on the Rights of Indigenous Peoples, adopted in 2007, enshrines a right to reclaim human remains, as does legislation in Britain, Australia and the United States (but not in Canada). Scores of museums (including the British and Pitt Rivers museums) have drawn up repatriation policies and ethical codes on the treatment of remains. France's Museum of Man, where the skeletons of Abraham Ulrikab and his companions are stored, is willing to let them go, says France Rivet, author of a new book on the saga of the group. "They are just waiting for a request from Canada," she says.

The petition has not come, says Mr Lough, partly because "the Inuit way is to ensure everyone is consulted." The fragile state of Inuit communities makes that hard. Hebron, home to the Ulrikab family, was founded by Moravian missionaries. But the settlement was abandoned in 1959 when the mission closed; the family's descendants scattered. They must be traced to help decide where the remains should be buried and what sort of ceremony to hold. Nakvak, home to others in the original party, now lies in Torngat Mountains National Park. There are bureaucratic hurdles to using it as a burial site.

Only after the Inuit decide how to handle the remains can negotiations begin between the governments of Canada and France over releasing them and paying the costs of repatriation. Stephen Harper, Canada's prime minister, and France's president, François Hollande, agreed in 2013 to work towards repatriation. But South Africa waited eight years for Saartjie Baartman, "the Hottentot Venus", after Nelson Mandela requested her return in 1994. For Abraham Ulrikab and his friends, at least, the journey home is beginning. ■

Bello | What are the spies for?

Too many Latin American intelligence services have become partisan tools of political control

THE scandals have come thick and fast. On February 18th news leaked that two NCOs in Peru's naval intelligence agency were being tried in a military court for selling information to Chile. That came days after several political foes of Peru's president, Ollanta Humala, complained of being spied on by the National Intelligence Directorate (Dini). In January two former Panamanian security chiefs were arrested on charges of spying on scores of citizens for Ricardo Martinelli, a former president.

In Colombia, government negotiators conducting peace talks with the FARC guerrillas had their communications hacked last year, seemingly by army intelligence agents. The former director of the country's now dissolved Department of Administrative Security (DAS) faces trial for illegal phone tapping of adversaries of Álvaro Uribe, a former president.

Argentina's president, Cristina Fernández de Kirchner, accuses a sacked former intelligence chief, Jaime Stiuso, of inspiring the recent accusation by Alberto Nisman, a prosecutor, that she and her foreign minister colluded with Iran to suppress the truth about the 1994 bombing of a Jewish centre in Buenos Aires; she also hinted that Mr Stiuso was behind Mr Nisman's subsequent death in January. In Venezuela, the government sent intelligence agents to arrest the mayor of Caracas, Antonio Ledezma. In the dungeons of the service's forbidding grey marble headquarters in Caracas, several student leaders are still incarcerated after anti-government protests last year.

There is an odd one out in these cases. If Chile's navy has indeed spied on its Peruvian counterpart, which its government denies, that is hardly unusual. It would be surprising if Peru's armed forces did not run agents in Chile. The two

countries have long mistrusted each other, though relations have recently improved. If not exactly legitimate, secret information is often useful in apprising countries of the intentions of others.

All the other cases are symptoms of two Latin American diseases: the partisan abuse of intelligence services by governments to spy on political opponents, and a tendency for spy agencies to pursue their own agendas. In many cases such behaviour dates back to the dictatorships of the 1970s that fought the cold war against local communists and Cuba (which has by far the most efficient intelligence services in the region). With democracy restored, Chile, Uruguay and Brazil all set up new, civilian, agencies, which specialists say are professionally run. Juan Manuel Santos, Colombia's president, has set up a new service to replace the discredited DAS.

Elsewhere bad habits remain. Venezuela's Sebin is "into anything, including assassinations", says a Western intelligence analyst. In Peru Vladimiro Montesinos, the sinister spy chief in the 1990s who is now in jail, used the intelligence services for extortion, drug-trafficking, the smearing of opponents and manipulation of the mass media. They were too busy to warn of an Ecuadorean invasion of Peru in 1995. Dini has not shaken off Mr Montesinos's legacy. It has 400 well-paid agents, many of them army pals of Mr Humala, when all it needs is 50 or so professional civilian analysts, says Fernando Rospigliosi, who briefly supervised it in 2002.

In 2002 Argentina supposedly reformed its intelligence agency, set up by a former Nazi agent under General Juan Perón in the 1940s. The Intelligence Secretariat (SI), as it is now called, is a monster with at least 2,000 employees and a budget of $214m last year. In theory but not in practice, it is overseen by a congressional committee. Judges, who are also supposed to supervise it, depend on its help in their investigations. So do presidents and provincial governors: under Ms Fernández and her husband and predecessor, Néstor Kirchner, the SI devoted itself to spying for them, according to the Western analyst. That was until Ms Fernández fell out with Mr Stiuso. She now plans to replace the SI with a new agency, but there are fears that the reformed set-up may be no more accountable.

These shadowy powers of state have no place in a democratic Latin America. The region should ask itself what it needs spies for. Armies and police do operational intelligence work, respectively on foreign powers and on drug gangs and the remaining subversive groups. Much strategic intelligence can now be bought commercially. If the intelligence services are misused or out of control it is often because the politicians have failed to give them clear tasks. Few have the interest or expertise to do so, notes Harold Trinkunas, a security specialist at the Brookings Institution, a think-tank in Washington, DC. It is high time they developed them.

Also in this section

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North Korea's economy

Spring release

SEOUL

Tantalising signs of change are emerging. Whether they signal more profound shifts is less clear

IN A fast-changing region, one thing has long been a constant: the utter disregard that the mafia dynasty ruling North Korea evinces for the welfare of ordinary people. So growing evidence of liberalising reforms in North Korea is tantalising.

"Reform" remains a taboo word in the North. But new measures in the countryside appear to sanction people farming for the market rather than for the state. It represents a tacit abandonment of state collectives in favour of family farming, and seems already to have had an effect. For the first time in decades, North Korea grew nearly enough to feed itself last year. Thanks to better harvests, the North Korean economy could grow by 7.5% this year, compared with annual growth of little more than 1% for a decade, reckons the Hyundai Research Institute, a think-tank in Seoul, the capital of South Korea. Asia's basket case could prove to be its fastest-growing economy.

Caveats abound. North Korea divulges little useful data, and last year the UN's Food and Agriculture Organisation (FAO) was not allowed in to conduct field checks. Many homes still have too little to eat—North Koreans on average consume a little over half the number of calories of their rich brethren in South Korea (for other comparisons, see chart on next page). Still, anecdotal evidence suggests that change in this benighted country is under way.

The agricultural experiment seems to have been devised in secret after Kim Jong Un came to power just over three years ago following the death of his father, Kim Jong Il. It was set in motion from 2013. Initially, it allowed groups of about a dozen labourers to register as agricultural work teams, effectively reorganising the big socialist collectives that have been a feature of North Korean agriculture since the 1950s. Farmers were also allowed to retain 30% of a new quota on production—a much bigger share than before. In addition, they could keep (ie, sell on the market) any excess harvest above the quota. Previously any surplus would have gone to the state.

Under a plan referred to as the May 30th measures, those teams were shrunk again last year, to the size of a typical family, while their share of the quota was enlarged to 60%. Even the permitted size of families' kitchen gardens, which are far more productive patches than land tilled for the state, have been expanded dramatically, from 100 square metres to 3,300 square metres. For Andrei Lankov, a long-time watcher of North Korea at Kookmin University in Seoul, the new measures, a quasi-privatisation of state land, are nothing short of revolutionary.

A second area of experimentation, in state industry, is equally striking. Under the May measures, state factory managers may appoint their own employees, set workers' salaries, buy raw materials on the market and sell part of their production there too. Like farmers, managers will need to pay their dues to the state. Yet, says Mr Lankov, that is not so different from paying corporate taxes in a capitalist economy.

The regime is also promoting special economic zones (SEZs) with gusto, thanks to a new law on them. Andray Abrahamian of Choson Exchange, a non-profit group that organises business workshops in North Korea, describes a "palpable energy and excitement" among officials in charge of SEZs.

The oldest zone is the export-processing hub of Rason, in the north-east of the country near the borders with Russia and China. It was set up in 1991 and languished for years. But recent development has been swift. Chinese firms have paved roads linking its port to the Chinese border. Last July a new port terminal, linked to a freight railway to Russia, was launched. At a recent forum in Seoul on doing business in North Korea, Mark Kim, a Korean-American who operates a shoe factory in Rason, said his football boots were "selling like hot cakes" in the North (though he has yet to make a profit). Rason has also become the first place in North Korea where you are allowed to own your home.

The government has announced a further 19 SEZs since 2013, small hubs of between two and four square kilometres for everything from tourism (Chinese occasionally holiday in the North) and software development, to fertiliser- and rice-production. Nearly every North Korean city now has one or two zones (though, Mr Abrahamian says, they remain "underfunded and underconnected").

Reforms have been announced before, in 2002. Aiming to motivate labourers by aligning state and market prices, Kim Jong ▸▸

Il declared that subsidies to state-owned firms would be withdrawn, while farmers could sell any extra produce in small-scale markets. Yet by 2005 these measures had been rolled back. This time round, comparisons to China's economic lift-off from the late 1970s are being made more readily. Though his father died peacefully in his bed, Kim Jong Un may think his only chance of survival is change. Some analysts argue that he shows far more desire to improve livelihoods than his father ever did. Pak Pong Ju, the architect of the 2002 experiments (who has seen the fruits of Chinese reforms for himself), has re-emerged from the political wilderness and is now Mr Kim's prime minister. Mr Kim visits orphanages and amusement parks, and regularly speaks of improving people's quality of life. He has positioned himself as the champion of a growing urban consumer class in the capital, Pyongyang.

Not quite Chol Pass, but it's an improvement

Yet there are grounds for scepticism. Perhaps the best that can be said of the new measures is that they try to narrow the gulf between the regime's upbeat propaganda ("Make fruits cascade down and their sweet aroma fill the air on the sea of apple trees at the foot of Chol Pass!") and the sordid reality of the lives that many North Koreans lead.

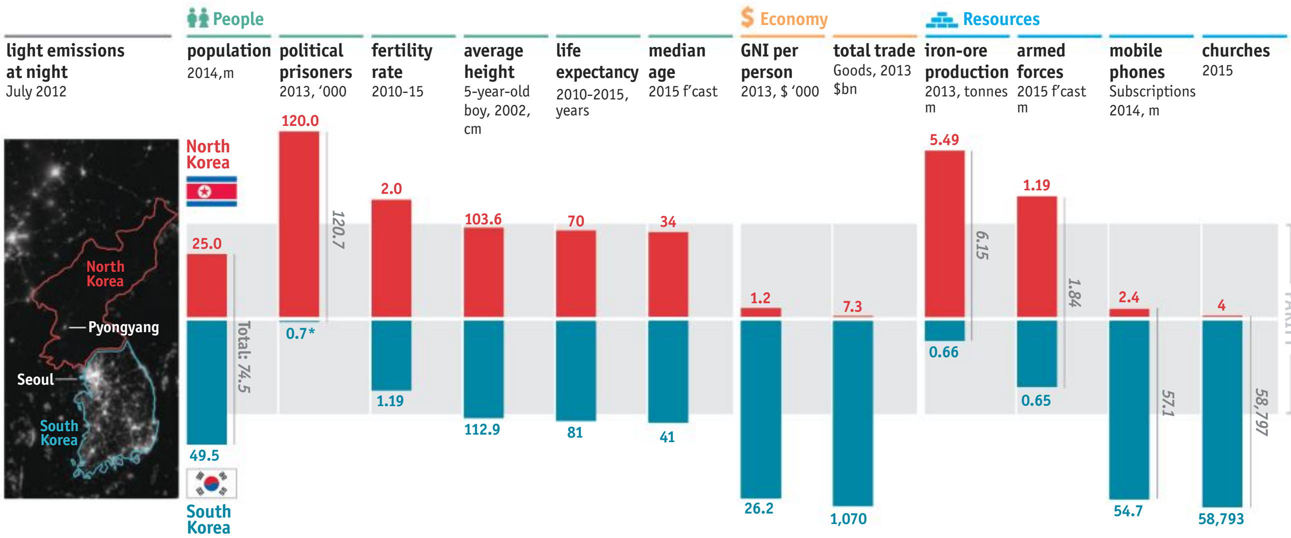
A new generation of North Koreans has little recollection of families depending on the state for all their needs, says Sokeel Park of Liberty in North Korea, a group that works with defectors. A disastrous currency confiscation in 2009 hit small traders hardest, cementing distrust of the state. It even instilled a degree of defiance in those who had to work against the state system to survive. Young urban North Koreans recently defecting to the South claim not to have been afraid to criticise the Kims among close friends and family. This group, hooked on foreign media being smuggled into the North, now refers to itself as "awoken", says Mr Park. As ever more information from outside is ferreted into the country on DVDs and USB drives, state rhetoric and reality grow further apart. Parts of the regime understand this. Some of the impetus for the market-oriented measures, says Christopher Green of Daily NK, a news source with informants in the North, is to bring rhetoric and reality closer into line.

In other words, the regime may not be leading change so much as responding to it. The collapse of the public distribution system, through which the command economy used to apportion goods, including food, was both a cause and consequence of the famine. Informal trading and smuggling networks, and black markets for food, sprang up as a result of it. The state has on occasion tried to suppress these markets, but has no more succeeded than with its attempts to reinstate the distribution system. Today, three-quarters of what most people earn probably comes from an unregulated private economy. A forthcoming book, "North Korea Confidential", by James Pearson and Daniel Tudor (a former correspondent for *The Economist*), says that nearly all North Koreans lead a "double economic life", supplementing measly rations and puny state wages of as little as $1 a month with extra work in their spare time.

To an extent, the recent top-down measures may be an acknowledgment that the bottom-up change of the past 15 or so years is irreversible. In fact, the regime has a

North-South divides

The two Koreas' share of:



Sources: UN; Daniel Schwekendiek; Statistics Korea; Bank of Korea; Thomson Reuters; IISS; Orascom; CIA World Factbook; *The Economist*

*Includes conscientious objectors and those convicted of praising the North growing interest in the non-state economy. Officials tolerate private trade partly because they get a cut—in effect running a protection racket. Many have become entrepreneurs themselves, managing state firms for private profit. The Kim family itself gets money from such firms. To the extent that the state has recently cracked down on smuggling from China, it is in order for Mr Kim and the elites around him to get a bigger share of the pie, according to Kim Kwang Jin, an analyst and North Korean defector who once worked in the regime's "royal-court" economy.

Yet official corruption and protection rackets point to the limits of reform. There are rumours of local officials taking a cut of farmers' crops. Concerned about losing influence and privileged access to food, some officials are also trying to revive the state plan, says Randall Ireson, an expert on North Korean agriculture. Meanwhile, farmers will continue to depend on ropy government agencies for essential materials such as fertiliser and oil. As for last year's higher yields, they come at a price: emptying water reservoirs during a dry spell has left the country facing even more severe shortages of electricity than usual.

There is a deeper lesson from the Chinese reform path. It is that real, sustained improvements to a decrepit economy are possible only with outside expertise and capital. Yet, fearful of political meddling, the North remains deeply suspicious of foreign investment. Commercial relations with China, supposedly an ally, are abysmal, with Chinese mining and trading companies complaining of broken contracts and outright theft by their North Korean state partners. Even Rason, at the forefront of North Korea's economic experiments, has yet to receive promised Chinese electricity from neighbouring Jilin province. A third bridge being constructed over the Yalu river, which separates the southern end of the two countries' border, was set to open in October; yet roads linking it to transport networks on either side are unfinished, and work on it has stalled.

But it is North Korea's nuclear-weapons programmes that do most to darken its relations with the outside world, above all South Korea, America and Japan. (Only with Russia is North Korea on good terms, and since that amity is based on hopes of aid, it is not likely to last, given Russia's straitened finances.) The programmes have brought international sanctions down on North Korea, but the North gives no impression of abandoning them.

Indeed, according to a report by the Johns Hopkins School of Advanced International Studies in Washington, DC, North Korea's stockpile is poised for rapid expansion. From about a dozen weapons today, North Korea could build 100 within five years, even without a fourth nuclear test. Its plutonium-based weapons, the report claims, have already been miniaturised to carry on medium-range ballistic missiles.

It may be that the regime wants to develop the economy. But it is certainly not going to do so at the expense of developing nuclear weapons—or of lessening the repression and state violence by which it stays in power. It underscores the dead end into which its leaders have driven North Korea. Even if the current reforms are maintained, the improvement to the livelihoods of North Koreans is bound to be limited, no matter which Kim is in power. ■

The Maldives

In a sling

MALE

A former president faces jail again as democracy withers

HIS arm wrapped in a makeshift sling symbolised the bruised state of Maldivian democracy. Mohamed Nasheed, a former president, was injured on February 23rd as police dragged him to court for a trial on charges of terrorism. The case is a blatantly political effort against the popular opposition leader.

The charges concern Mr Nasheed's decision as president three years ago to seek the detention of a troublesome judge. Prosecutors call that an effort to spread terror and say Mr Nasheed should spend up to 15 years behind bars. This looks bizarre. In fact Mr Nasheed himself became the only obvious victim of the fracas over the judge, when threats by security forces got him to quit in 2012. It was, in effect, a coup.

A powerful clique, including the judiciary, looks out to hobble Mr Nasheed, who was the Maldives' first ever elected president and remains a popular, liberal figure. In 2013, when he took a big early lead in new presidential elections, judges repeatedly postponed subsequent voting, as violence simmered. Eventually Mr Nasheed narrowly lost and conceded.

The Maldives promotes itself as a haven for tourists. Locals see its unhappier side: sullen, conservative Islamists and mafia-like gangs that prosper by smuggling heroin and alcohol. For three decades a dictator presided: Maumoon Abdul Gayoom locked up Mr Nasheed a score of times. Now the former dictator's half-brother, Abdulla Yameen, fronts the government. Jailing Mr Nasheed smacks of the old dictator's methods.

Why risk making a martyr of him? The government is jittery, and turning on opponents is its knee-jerk response. Mohamed Nazim, defence minister until recently, has also been arrested, accused of plotting a coup. In December two Supreme Court judges were sacked.

Opposition is coalescing. Mr Nasheed's party and a former rival have recently started working together. Nightly street protests take place in Male, the capital. A big one is due on February 27th. Public anger lingers over the abduction, perhaps murder, of a young journalist last August.

An MP in Mr Nasheed's party, Eva Abdulla, says that the president is losing his grip. She calls those in office a "gang of thugs"—one minister led a mob of stick-wielding men through Male. In the long run, she thinks, the harassment will only strengthen the democratic opposition. Foreign criticism gets louder, and a planned visit next month by India's prime minister, Narendra Modi, looks in doubt. Mr Yameen just wants to hang on, and is turning to other friends—he planned to fly to Pakistan this week. The long run can wait. ■

Nasheed: down but not yet out

Reforming Japan

Just do it

TOKYO

Has the government got the gumption to push through change?

THE prime minister, Shinzo Abe, clearly wants to convey a certain impression. In a policy speech to the Diet this month, he repeated the word *kaikaku*, or reform, no fewer than 36 times. Indeed, he promised "the most drastic reforms since the end of the second world war", in which he would break the hold of vested interests on the Japanese economy. The prime minister and his advisers know exactly what steps are needed to raise Japan's long-run rate of growth. Less clear, as ever, is whether they will take them.

So far as the economy is concerned, the government now has a kinder wind at its back. In mid-February came news that Japan pulled out of recession in the final quarter of last year, growing at an annualised rate of 2.2%. A conundrum for much of last year was the failure of exports to respond to a currency made much weaker by the central bank's vast quantitative easing. Yet in the last quarter exports jumped at last, by an annualised 11%.

A sharply lower oil price, meanwhile, has offset the severe drag on demand that came from raising the consumption (value-added) tax last April from 5% to 8%. Now comes the prospect of bigger pay packages. Half of companies in a recent survey plan to raise basic wages this year, citing a tightening labour market and government pressure.

As for those vested interests, reformers point to Mr Abe's attack on JA-Zenchu. This is the powerful bureaucracy and lobby group at the heart of the vast network of farming co-operatives known as Japan Agriculture. It was thought untouchable because of its close ties to politicians in Mr Abe's Liberal Democratic Party (LDP)—in rural areas, JA-Zenchu has a reputation for being able to get out the vote.

Yet this month Mr Abe forced through a plan to slash JA-Zenchu's powers. It will no longer audit the 700 co-operatives or be allowed to guide their policy. The move is supposed to help make farmers more competitive. It comes at a time when negotiations with America over the Trans8-Pacific Partnership (TPP), a 12-country free-trade agreement, were supposed to be coming to a head. JA-Zenchu opposes reductions in farm tariffs demanded by America.

The most substantial of Mr Abe's reforms to date, however, has been to force Japan's business establishment to accept useful changes in corporate governance. On June 1st a new code will come into effect stipulating that, among other things, listed companies have at least two outside directors on their board.

Significant though these two measures are, along with others (including helping women in work), they fall far short of what Japan's gummed-up economy requires. That is why a key test will be whether the government pushes on with bold changes to the labour market this year. One reason for stagnant wages is that companies with too many workers cannot easily fire them, even with generous compensation.

Yasutoshi Nishimura, a vice-minister in the cabinet office, says that Japan badly needs to shift from a system in which graduates join a single company for life to one in which people can easily switch firms. In the spring the government will propose ways of allowing permanent workers to be fired in return for severance pay. It is the most critical—and delicate—of Mr Abe's proposed reforms. Implementing it, backers say, will take time.

The government also promises to bring down the public debt, which stands at more than 240% of GDP. It will soon seek Diet approval for a ¥96.3 trillion ($810 billion) budget, a record. Higher tax receipts mean that annual borrowing requirements should not rise. But the government is on course to flunk a key target to balance the budget by 2020.

Mr Abe is to report in the summer on how to repair the public finances. Before then, a key economic-policy council will present proposals to cut social spending. These could include bringing in the private sector to deliver services, according to a council member, Takeshi Niinami. A battle with Japan's powerful doctors' lobby, which opposes increased competition in medical services, also looms. Mr Niinami says the skills to push such changes through demand patience, and subtle abilities to bring round opponents of reform. Will the distinction between canny patience and dithering be clear? ■

Construction in the South China Sea

Reclamation marks

SINGAPORE

An unprecedented building boom

THE barren islets, cays, reefs, shoals and rocks of the South China Sea are witnessing an unprecedented building boom. Satellite pictures have revealed more about the reclamation work undertaken by China on features, especially in the Spratly archipelago, also claimed by the Philippines, Vietnam and Taiwan.

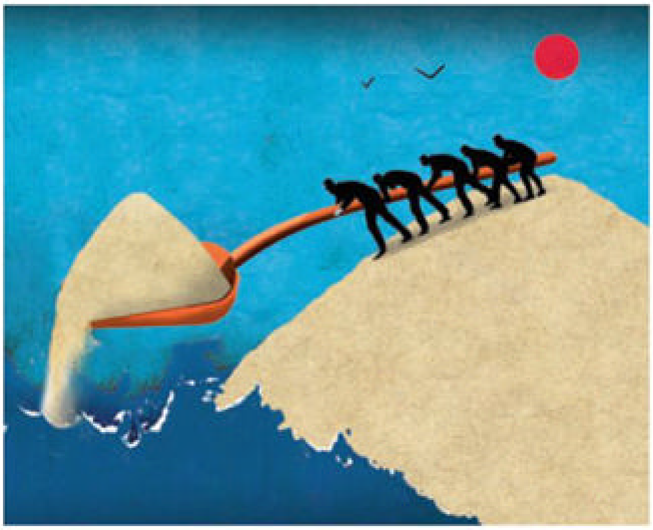
On Woody Island, part of the Paracels group which is claimed by both Vietnam and Taiwan, China has long had an airstrip 2.7km (1.7 miles) long. Now, at **Fiery Cross** Reef, it appears to be building a 3km-long airstrip. At **Hughes** Reef, 75,000 square metres of sand have been reclaimed since last August to house a large new facility, according to estimates by IHS *Jane's Defence Weekly*, a specialist journal. Further work is under way at **Gaven**, **Cuarteron**, **Eldad** and **Mischief** reefs.

China contends that it is only catching up with decades of building by other claimants. Vietnam is estimated to have built on 25 features in the Spratlys. Taiwan is quietly building a new port big enough to host warships on **Itu Aba** (also known as Taiping), in natural terms the largest of the Spratlys. Fiery Cross now appears to be larger. Indeed, China's building stands out for three reasons: its

extent, its speed and its egregious flouting of the spirit of a declaration signed in 2002 with ASEAN, the Association of South-East Asian Nations, in which all claimants promised "to exercise self-restraint in the conduct of activities that would complicate or escalate disputes."

Banyan | Such quantities of sand

Asia's mania for "reclaiming" land from the sea spawns mounting problems



EVEN on a quiet Sunday morning, a steady stream of lorries trundles along the broad, pristine and otherwise deserted streets of Punggol Timur, an island of reclaimed land in the north-east of Singapore. They empty their loads into neat rows of white, yellow and grey mounds where the country stockpiles a vital raw material: sand. Building industries around the world depend on sand. But Singapore's need is especially acute, as it builds not just upward but outward, adding territory by filling in the sea—with sand. And in Asia it is far from alone. The whole region has a passion for land reclamation that has long delighted property developers. But it has worried environmentalists. And it brings cross-border political and legal complications.

For Singapore, territorial expansion has been an essential part of economic growth. Since independence in 1965 the country has expanded by 22%, from 58,000 hectares (224.5 square miles) to 71,000 hectares. The government expects to need another 5,600 hectares by 2030. The sand stockpiles are to safeguard supplies. Singapore long ago ran out of its own and became, according to a report published last year by the United Nations Environment Programme, by far the largest importer of sand worldwide and, per person, the world's biggest user. But, one by one, regional suppliers have imposed export bans: Malaysia in 1997, Indonesia ten years later, Cambodia in 2009 and then Vietnam. Myanmar also faces pressure to call a halt. Exporting countries are alarmed at the environmental consequences of massive dredging. And nationalists resent the sale of even a grain of territory.

The area of land Singapore has taken from the sea is dwarfed by reclamation elsewhere—in Japan and China, for example. Since the 19th century, Japan has reclaimed 25,000 hectares in Tokyo Bay alone. For a planned new city near Shanghai, Nanhui, more than 13,000 hectares have been reclaimed. In Hong Kong, as Victoria harbour has been filled, the island has moved closer to mainland China geographically if not politically.

Singapore is unusual both in being so small that such a large proportion of its territory is man-made, and in being so close to its maritime neighbours, Malaysia and Indonesia. Not only has it faced criticism from environmental groups because of the impact its sand purchases have had in the exporting countries, in 2003 it also faced a legal challenge under the UN Convention on the Law of the Sea (UNCLOS) from Malaysia over land-reclamation projects at either end of the Johor Strait that separates the two countries. Malaysia alleged the work was impinging on its sovereignty, harming the environment and threatening the livelihoods of some of its fishermen.

After arbitration, the dispute was settled amicably enough. But now roles are reversed: Singapore is concerned about two big Malaysian reclamation projects in the Johor Strait. One, Forest City, would reclaim land to create four linked islands in the strait. It sounds like a fantasy—virtually an entire new city of gleaming skyscrapers and verdant lawns. But since its shareholders are a big Chinese concern and the Sultan of Johor, the head of the royal family in the Malaysian state of Johor, it is taken seriously. After Singaporean protests, reclamation work stopped last year. But in January it was reported that the project had been approved by the Malaysian government, albeit scaled down considerably. Singapore's government says it is still waiting to hear this officially.

International law is likely to be invoked again over island-expansion elsewhere in Asia. Japan argues that its remote southern outcrop of Okinotorishima is an island, which, under UNCLOS, would entitle it to "territorial waters" within a 12-nautical-mile (22km) radius, and a 200-mile "Exclusive Economic Zone" (EEZ). China argues it is not an island at all but a rock, incapable of sustaining human habitation, and so, under UNCLOS, commands only territorial waters, not an EEZ. The argument is complicated by Japan's efforts to make the island grow by using star sand, the shells of a tiny single-celled organism found near coral reefs in Japan's south. Scientists have learned how to grow this artificially, and the government hopes thereby to strengthen Okinotorishima's claim to island status. Even if they managed this scientific feat, it might not pass legal muster with UNCLOS. Rocks and islands must be "naturally formed". So can rocks be transformed into islands through man-made sand?

The law is explicit that ground that is submerged at high tide—known as "low-tide elevations"—commands neither territorial waters nor EEZs, and cannot be built up into "rocks". This is an important issue in the complex overlapping territorial disputes in the South China Sea, where China is reclaiming land in contested areas. In a submission to an UNCLOS tribunal, the Philippines has asked that three features China is developing be categorised as "low-tide elevations" and three as "rocks".

You are a rock, I am an island

China may hope that by filling in the sea around rocks of all sorts it can upgrade their legal status. After all, once the work is done, it would be hard to prove where the original feature began and ended. More likely, however, China simply sees merit in the old saw that possession is nine-tenths of the law. Building on these features offers practical benefits for Chinese coastguards, fishermen and the navy and air force—and it bolsters China's territorial claim with an enhanced physical presence.

China is vague about what its claim is. Is it based on land features and the waters that accrue to them under UNCLOS? Or does it, following historic maps that show a "nine-dash line" round the edge of the sea (see map on previous page), also assert sovereignty over the water itself? In this sea of vagueness, China's reclamation work offers practical and symbolic benefits. It also points to a rarely cited reason why the South China Sea matters. Oil experts now often cast doubt on the sea's purported wealth of hydrocarbons. It does, however, contain substantial quantities of sand. ■

Also in this section

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Ideology

Class struggle

BEIJING

Officials are trying to stifle independent voices in universities

IN THE first week of March university students in China will return from a break of six weeks or more. They will find a new chill in the air. While they have been away, officials have been speaking stridently—indeed, in the harshest terms heard in years—about the danger of "harmful Western influences" on campuses, and the need to tighten ideological control over students and academic staff.

Universities have always been worrisome to the Communist Party; they have a long history in China as wellsprings of anti-government unrest. The party appoints university presidents. Its committees on campuses vet the appointment of teaching staff. Students are required to study Marxist theory and socialism. They are not allowed to study politically sensitive topics such as the grievances of Tibetans or the army's crushing of the student-led protests in Tiananmen Square in 1989.

There is no sign of an anti-party campaign developing on campuses (students are signing up for party membership in droves, believing it to be a path to career success). But since Xi Jinping took over as China's leader in 2012, the party has been trying to reinforce its control in numerous areas. In the army it appears that Mr Xi has been leading the effort personally (see next article). In the academic realm, his involvement in the crackdown now unfolding is less certain. But he has shown no sign of resisting it, and some of the rhetoric warning of the dangers of Western values echoes his own. Mr Xi is certainly no liberal. In his rule he has tightened controls over the media, and there have been numerous arrests and trials of civil-society activists.

That officials have begun to turn their attention to campuses became evident on January 19th, when Xinhua, a state-controlled news agency, published a summary of a document issued secretly by the central authorities in October. It directed universities to "strengthen" their efforts to spread the party's propaganda and promote its ideology. It told them to educate students better in the history of the party, as well as about the "Chinese dream" (a pet idea of Mr Xi's). The document also urged educators "firmly to resist infiltration by hostile forces". It was suffused with the same sense of a party under assault by Western liberal thinking that permeated a secret directive issued in 2013, known as Document Number Nine. That spoke of the threat posed by ideas such as universal values, civil society and press freedom—positive mention of which had occasionally surfaced in some Chinese newspapers and still occurs frequently in university classrooms.

An old-style propaganda campaign is now unfolding. On January 29th Yuan Guiren, the education minister, declared at a conference that "textbooks promoting Western values" would not be allowed in classrooms, nor would "slandering" of the party leadership. Officials at the same meeting echoed his views, including the party chiefs of Peking University and Tsinghua University, the country's most prestigious colleges. On February 6th a commentary in the *People's Daily*, the party's main mouthpiece, quoted the party chief of Renmin University in Beijing as saying that Marxist thinking must "enter textbooks, enter classrooms and enter brains".

Unlike Mr Xi's campaign against corruption, which has been pursued with far greater vigour over a longer period than any other like it in the post-Mao era, the crackdown on campuses may not prove long-lived. Some Chinese academics, though mindful that several scholars have lost their jobs in the past two years because of their liberal views, privately scoff at the ritual repetition of vague slogans that has so far marked the current campaign. Some online commentators have openly criticised it. Ren Zhiqiang, a property developer, wrote to his millions of microblog followers: "Why is it necessary to fear Western values?" He noted that Marx himself was a Westerner.

The education minister and the party leaders of Peking and Tsinghua universities are not known as hardliners. Mr Yuan has spoken positively in the past about Western-style teaching methods which promote critical ways of thinking. One academic at Peking University says "everyone knows" that the three men do not believe their own words about the dangers of Western influences. Few expect the crackdown to affect teaching in such areas as science and medicine which do not touch on politically sensitive issues, even though they rely on Western textbooks.

But the campaign is likely to prompt at least some lecturers to be more cautious. Officials' ill-defined references to "hostile forces" could be used to target the party's many critics in university faculties. One newspaper, *Liaoning Daily*, reported late ▸▸

last year that 80% of students it surveyed in more than 20 universities scattered across five cities had encountered academics who had complained about China or smeared it in class. The "phenomenon of China-bashing", it said, was "quite serious sometimes". On February 3rd several official websites published a screed by Zhu Jidong of the Chinese Academy of Social Sciences. It said those who criticised Mr Yuan should be investigated and "a few model examples" of such people should be punished harshly.

Hardliners have long been waiting for an excuse to pounce. In November members of the Chinese Red Culture Institute, a group of scholars and retired senior officials, held a meeting in Beijing at which they complained that Marxism was in retreat and that scholars with Western backgrounds had "sneaked" into academia and government, according to *Chinese Social Sciences Today*, a journal. "Those who smash the Communist Party's cooking pot...we will take away their bowls," participants are said to have vowed.

One university president, Gong Ke of Nankai University in the northern city of Tianjin, has publicly expressed alarm, accusing hardliners of wanting to launch a witch-hunt on campuses such as occurred in the Mao era. His remarks were published on the website of the *People's Daily*—a hint that at least some in the party are still in favour of restraint. ■

Marriage

Wedding wows

BEIJING

How the one-child policy changed Chinese nuptials

OVERSIZE cupids in pink, furry outfits hand out heart-shaped balloons with "I Do" written on them (in English) at a wedding-themed trade fair in Beijing. Vendors offer romantic photo-shoots of couples under water or at a racetrack, personalised wedding cigarettes, and biscuits with names such as "Date & Fate". An emphasis on love is a new addition to Chinese weddings—and shines a pink-filtered spotlight on social change.

For centuries, marriage in China was about ensuring heirs for the groom's family. Ceremonies centred on the groom's kin: couples kowtowed to the man's parents but the woman's relatives were absent. Unusually, both the groom's and the bride's family exchanged money or goods. The more money changed hands, the more opulent the wedding.

After it came to power in 1949, the Communist Party imposed frugality. Dowries consisted of necessities like bed linen or a bicycle; guests brought their own food coupons. But since the 1980s the extravagance of nuptials has matched the country's rise. Celebrations moved out of homes into hotels. Brides swapped traditional red dresses for white, flouncy meringue-like ones (some now wear both, in sequence).

A large industry has emerged to serve the 13m couples who marry each year. Wedding planners are increasingly common, particularly in cities. A decade ago *Cosmo Bride*, an American-owned lifestyle magazine, launched a Chinese-language edition in China. An average wedding cost $12,000 in 2011 (the latest year for which such data exist)—the equivalent of more than two years' income for the average urban household. An increase in the average marriage age by 2.5 years since 1990 has given parents (who still usually pay for weddings, despite the earning power of their children) more time to save up.

The change in wedding frippery also reflects a fundamental shift in society. For the first time in the history of Chinese family life, the child—rather than ancestors or parents—is regarded as the centre of the family, says Yan Yunxiang of the University of California, Los Angeles. Most newly-weds now are single children, born since the one-child policy was introduced more than 30 years ago. Parents have more to spend if they only have to fork out for one wedding (they usually share costs with the spouse-to-be's family).

William Jankowiak of the University of Nevada, Las Vegas, who has documented relationships in China for 30 years, says love plays a larger part in young people's lives—both in choice of partner and in their relationships with parents. Love is far more often spoken about. The result is evident in weddings, which now focus on the couple. Both sets of parents are represented, but their position is peripheral. Weddings often feature a day of wedding photos, shot before the event, with the couple in a range of outfits against romantic backgrounds, but with no family members. ■

Falling in love

Ideology in the armed forces

Red red army

BEIJING

To be a good soldier in China is to be a good Communist

ENSURING that troops remain loyal to the Communist Party has been a central aim of military training since the People's Liberation Army (PLA) was founded in 1927 as a guerrilla force in the countryside. President Xi Jinping wants to make them even redder.

Political education is already time-consuming. In basic training, troops spend about 40% of their week studying the history of the Communist Party and the military writings of party leaders. After boot camp they continue to devote 20-30% of it to ideology. The top brass are not exempt: an official report last year on a meeting of the Central Military Commission, the armed forces' high command, of which Mr Xi is chairman, said that participants had genned up beforehand on the military thoughts of Mao Zedong and the like. Political officers, responsible for instilling party discipline, command jointly with officers in charge of soldiering.

Mr Xi, who enjoys more clout in the armed services than any of his predecessors since Deng Xiaoping, says he wants to modernise the PLA and boost its readiness to fight. He sees ideological training as crucial to this; a "magic weapon", he says, for winning victories. This month he declared that "corrupt ideas and cultures" could damage morale. Soldiers, he said, should be "absolutely loyal, absolutely pure and absolutely reliable".

Indoctrination is increasingly focused on ensuring devotion not just to the party, but to Mr Xi personally (he has reason to be a little nervous: his campaign against corruption has targeted numerous high-ranking officers). In November the PLA *Daily*, a military mouthpiece, said "implementation of Xi Jinping's directives" would be used to assess officers' performance. By the end of June troops are required to have spent at least six days studying how to become "a new generation of revolutionary troops". No prizes for guessing whose speeches form the core of the curriculum.

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African roads and rails

All aboard

VOI

A boom in building roads and railways should unclog economic bottlenecks, but is it sustainable?

ORANGE lights flash in the setting sun as Chinese workers lay train tracks on the dry edge of Tsavo national park in Kenya, lowering a 25-metre steel rail into place as gingerly as a dental filling. The men fret, with good reason: safety rules may protect them against falling sleepers but the African bush adheres to no regulations. Few workers dare to venture out of their sheet-metal camps at night for fear of big cats on the prowl: in January a watchman was mauled by a cheetah.

China Road and Bridge Corporation, the main contractor, has set up shop in territory made famous by the so-called man-eaters of Tsavo. When British colonial officials first built a railway line here in 1898, a notorious pair of maneless male lions killed about 30 mainly Indian labourers. "Perhaps we should have known better," says Lao Ding, a shift supervisor.

The challenges of upgrading and expanding Africa's transport network are manifold—but so are the rewards. The Kenyan government claims its new railway will boost economic growth by 1.5 percentage points annually, not least because it will reduce the costs of moving freight by 60%. The initial 609km (378-mile) section from the port in Mombasa to the capital, Nairobi, was started last month and is expected to be completed in 2017. It will then be continued inland to Congo, replacing a narrow-gauge track built a century ago.

Across the continent improved infrastructure of all sorts may increase economic growth by 2 percentage points a year, says the World Bank. The question many poor countries face, however, is whether to give priority to improving their roads or investing in other vital projects, such as hospitals, schools or power lines. Yet access to markets, schools and hospitals often depends on paved roads to distant towns and cities.

Improving transport is particularly pressing because the cost of moving goods in Africa is, on average, two or three times higher than in developed countries, according to the World Bank. And roads that are unsafe may be little better than none at all. Crashes on Uganda's crumbling roads, for instance, are reckoned to cost it 2.7% of

GDP a year through lost lives and damage to property, the bank says.

Sub-Saharan Africa spends some $6.8 billion a year on paving roads, but it needs to spend closer to $10 billion. Fortunately decades of underinvestment are being reversed and money is now flooding into roads, railways and ports.

The continent's road network has grown by an average of 7,500km a year over the past decade, a sharp increase from previous decades. Among those pouring tar fastest were Tanzania and Lesotho, with annual increases of about 15% and 24% respectively, according to the African Development Bank (ADB).

In 2016 a paved trunk road will connect Cairo and Cape Town for the first time when the last section, in northern Kenya, is finished. That will be almost exactly 100 years after the first effort to drive along this route ended tragically in 1914, when Captain Kelsey, a British officer, was killed by a leopard in what is today Zambia.

Other road links are improving, too. The Trans-Sahara Highway from Algiers to Lagos is 85% complete and may be finished this year. Almost wherever one travels in Africa, one finds road-building crews.

Dilapidated railways are also being refurbished and new ones laid. The Mombasa-Nairobi line is but one of three new rail corridors on the drawing boards in east Africa. The other two are intended to connect Lamu on Kenya's coast to South Sudan and Ethiopia; and Dar es Salaam in Tanzania to Rwanda and Burundi (see map).

The money for all this comes not just from national budgets or aid agencies, the usual sources, but also from private investors and new lenders. Chief among them is China, which recently signed a deal with the African Union that envisions a network of high-speed railways to link all countries on the African continent in the next few decades. ▸▸

Several African countries have tapped international capital markets with debut bond issues in recent years. Zambia, which sold its first dollar-denominated bond in 2012, has since returned with more, in part to fund an ambitious transport plan that now consumes more than $1 billion a year, a seventh of its budget.

African governments last year raised $8 billion in global sovereign bonds, up from $1 billion a decade ago. They are helped by a hunger for yield by investors in the rich world, where interest rates are being held down by central banks.

The private sector is also putting money directly into projects, as governments sell off state firms or grant concessions for railways. Since 2009 Qalaa Holdings, an Egyptian firm, has invested $234m in refurbishing railways in Kenya and Uganda after their governments granted a 25-year concession to run the railways. Cities including Dakar (Senegal) and Abidjan (Ivory Coast) have introduced tolls for highways and bridges.

Among the biggest commercial investors is Angola's sovereign-wealth fund, which recently set up a dedicated $1.1 billion infrastructure fund. "Transport infrastructure has the potential to generate a high yield," says its head, José Dos Santos. "We see returns above 10% per year on a ten-year investment horizon."

A recent glut of mining projects, caused by high commodity prices (a few years ago), is also leaving its mark. The government of Guinea, for instance, has made a deal with a consortium led by Rio Tinto that is exploiting the Simandou iron-ore field to make its dedicated rail and port infrastructure available to multiple parties on an "open access" basis. That could set a precedent for the way in which other governments deal with mining firms.

Still, risks abound. Countries that had spent much of the 2000s paying down debt and running prudent budgets are going back into the red. Outstanding debt by African states hit a ten-year high of 35% of GDP last year, says the IMF. It reckons that fiscal deficits in sub-Saharan Africa were, on average, 3.3% of GDP in 2014, a big shift from a surplus of 2.5% a decade ago.

Governments are also at the mercy of commodity prices. Exports of natural resources not only provide much of their revenue but have also spurred a good deal of private investment. When commodity prices go down, as they have done recently, building of roads and railways often stops.

Just as important as new roads are accompanying reforms. Cutting the time customs officers take to clear cargoes can yield benefits as great as those from expensive new roads. "Building more isn't always the answer," says Henry Des Longchamps at the World Bank. "Political leaders are often under pressure to deliver what turn out to be white elephants." ■

Land ownership

I had a farm in Africa

CAPE TOWN

South Africa takes a populist turn on land reform

CHURCHILLIAN is seldom an adjective used to describe Jacob Zuma, South Africa's president, whose ponderous parliamentary speeches are so irresistibly soporific to backbenchers that at least three were photographed snoozing through his recent state-of-the-nation address. But on the subject of land ownership a few days later he took a leaf out of the master orator's book. "The fate of too many", he said, "is in the hands of too few."

Mr Zuma's flagship policy in the face of a slowing economy and rising unemployment is to ban the foreign ownership of farmland. When first announced in parliament it drew loud applause, cheers and whistling from members of the ruling African National Congress (ANC).

It was a touch of populism, but it hit a raw nerve. Land reform remains a deeply emotive issue in South Africa. A cornerstone of colonial rule and subsequently of apartheid (as well as resentment against both), was a land act passed in 1913 that prevented black people from buying land outside native reserves that made up just 13% of the country. More than two decades after the end of apartheid, the country's white minority still owns most of the land.


Freedom's bounty

Now the government proposes to prevent foreigners from buying farmland as well as to restrict the size and number of farms that citizens may own. Foreigners would still be allowed to take out long-term leases on farmland, but not buy more.

Restricting foreign ownership is not un- ▸▸

South Africa's inept spies

From Pretoria, with love

JOHANNESBURG

Leaked cables cast a seedy light on the second-oldest profession

MODERN espionage is often a bumbling as well as a murky business. This is certainly true in South Africa, judging by a trove of recently leaked intelligence files. In one cable South Africa's spy chief is miffed to discover that a foreign spook has his private mobile-phone number—and demands an inquiry into the outrage. Another reveals that an Israeli agent in South Africa is "out of his depth", unable to find his way on local roads. And shops selling Persian carpets in Cape Town are suspected of being fronts for Iranian spies.

The source of the leak to the Qatari-owned Al Jazeera television company and to Britain's *Guardian* has not been publicly revealed but must be someone with access to the files of South Africa's intelligence service and the foreign documents that were shared with it. Many of the documents, dating from 2006-14, focus on spying by and on Israel and Iran. Others show efforts by agencies, including the CIA and Britain's MI6, to get information from South Africa about foreigners in the country. In many cases they are interested in opposition politicians and campaigners, including Greenpeace and climate-change activists, rather than obvious security threats.

One of the leaked cables, from Mossad, Israel's foreign-intelligence service, reveals in detail how South Africa's spies hid the fact that Israel had got hold of blueprints for its Mokopa air-to-ground missile system. A deal was struck: South Africa asked for its blueprints back and Mossad agreed to return them on condition that an Israeli citizen involved in the affair would not be prosecuted.

Reports by South Africa's spies seem largely drawn from public material. One cites newspaper articles in detailing its own co-operation on nuclear weapons with Israel. The image that emerges is of an intelligence service that gathers few secrets. It also frets about its ability to keep them—concerns that are well founded given this leak.

usual: China, Argentina, Thailand and Canada's prairie provinces are among the many places that limit land ownership by aliens. Seeff, a South African real-estate firm, has argued that proposed restrictions are more about politics than righting historical wrongs. Just 3% of total property in the country is in the hands of non-natives, according to Lightstone Property, a South African analytics company.

More significant, however, is Mr Zuma's announcement that land holdings even by citizens would be restricted to 12,000 hectares, which the government crudely described as being approximately the size of two farms. If a person owns more than this, the government will have the right to buy the excess land for redistribution. Mr Zuma said that the process of establishing an "Office of the Valuer-General" is under way, for determining land valuations in forced sales. The government is also considering a proposal that would allow it to compel farmers to hand over a 50% share in their farms to employees.

This sudden interest in land reform is because of the slow pace of change. Efforts to rectify land injustices through a "willing seller, willing buyer" system have been seen as largely ineffective. Only a small area of land has changed hands since the advent of democracy in 1994, and 90% of redistributed farms are not productive, by the government's own account. More recently the ANC has been outflanked by an upstart populist party, the Economic Freedom Fighters, which declared it would expropriate all land without compensation for "equitable redistribution".

Such proposals, whether by the government or opposition parties, inevitably unsettle South Africa's commercial farmers, as well as foreign investors. Close to mind is the memory of Zimbabwe's brutal land seizures of the early 2000s, which devastated its economy. The challenge for the ANC will be to effect real change without undermining its commercial farming sector, a significant export-earner and employer. Some farmers have already upped and left for African countries and beyond. Targeting foreign landowners will send a worrying message to investors at a time when the country can ill afford it. ■

Business in Lebanon

Lights, handguns, action

In Lebanon's fractured society, even keeping the lights on is a battle

SERIOUS business disputes in Lebanon's Bekaa Valley are normally settled one way—the bosses simply hire gunmen to sort things out. For informal-sector mainstays such as hashish production, kidnapping for ransom and currency counterfeiting, the way of the gun still rules this lawless agricultural basin bordering Syria. But perhaps no instance better illustrates the rough business culture here, and across much of Lebanon, than recent armed confrontations between private-generator owners and a local electricity provider.

Lebanon has been without state-supplied, round-the-clock electricity since its 15-year civil war began in 1975, giving rise to what is essentially a generator mafia. But when officials from Zahle announced last December that their city and 18 Bekaa villages at the foot of snow-capped mountains would soon get 24-hour electricity from a grid provider, local generator owners blocked roads with burning tyres. They threatened worse, since they would soon be out of what has been an incredibly lucrative business. Then in early February, four main transformers belonging to a power provider, Electricité de Zahlé (EDZ), were targeted in mysterious late-night gun attacks, rendering them useless. Until they are repaired, many residents of the area can get only 12 hours of electricity from the grid, forcing them to buy the remainder from generator owners.

Even more than celebratory gunfire and car horns, the most constant sound in every corner of Lebanon is the steady rumble of generators. In some remote areas of the country, residents get less than four hours of electricity from the national grid every day. In Beirut, savvy residents monitor the daily, timed blackouts with a smartphone app which tells them which three-hour block they will have to endure that day. A drop or two of rain can easily extend those blackouts to 12 hours or more.

Michel Massad, a Zahle *mukhtar* (a mayor-like local elder who mediates neighbourhood disputes), says locals are fed up with paying price-gouging thugs to keep the lights on. "When the price of oil dropped, the generator prices should have dropped too, but they didn't," he says. "This showed that they are a mafia, a gang, and they should all be arrested." Mr Massad adds that some generator owners earn at least $30,000 per month, and even more during the cold winter.

The blame ultimately falls on the Lebanese state. The bitterly divided sectarian parliament has passed no meaningful legislation in years, and has been unable to elect a president since last May. The national debt currently stands at 211% of GDP and is still rising. And a well-entrenched system of patronage has ensured that the same handful of family dynasties share Lebanon's riches.

Even when politicians did respond to popular anger by hiring floating power-stations from Turkey to supply more juice, they generated only a tiny amount of the electricity they were supposed to. The $360m deal was temporarily scuttled when the power supplier claimed that Lebanon had provided substandard fuel to operate them. Lebanese politicians, in turn, blamed the Turkish company for supplying shoddy generating equipment.

The fight over electricity reflects a problem faced by countries emerging from civil war. The collapse of the state opens up a vacuum. The gangsters who fill it remain in control after the fighting has stopped. Even in areas of the capital with chic night-life, valet parkers (known locally as the "parking mafia") sometimes brandish firearms to protect their turf.

Lebanon often presents a veneer of nor- ▸▸

A tangled web

Dated: January 30, 2015

NOTICE REGARDING COMMENCEMENT OF A JUDICIAL INSTRUCTION PROCEEDING IN CONNECTION WITH THE ACCEPTANCE OF THE SETTLEMENT AGREEMENT DATED AS OF APRIL 7, 2014, AS MODIFIED (THE "SETTLEMENT AGREEMENT"), FROM CITIGROUP INC. AND ITS DIRECT AND INDIRECT SUBSIDIARIES ("CITIGROUP").

NOTICE IS HEREBY GIVEN BY:

Deutsche Bank National Trust Company
HSBC Bank USA, National Association
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EACH, IN ITS CAPACITY AS TRUSTEE, INDENTURE TRUSTEE, SEPARATE TRUSTEE, AND/OR SUCCESSOR TRUSTEE OF THE ACCEPTING TRUSTS AND LOAN GROUPS (DEFINED BELOW) (COLLECTIVELY, THE "RMBS TRUSTEES" AND EACH AN "RMBS TRUSTEE"), TO THE HOLDERS OF CERTIFICATES, NOTES OR OTHER SECURITIES (THE "CERTIFICATEHOLDERS") OF THE RESIDENTIAL MORTGAGE-BACKED SECURITIZATION TRUSTS AND LOAN GROUPS IDENTIFIED IN EXHIBIT A HERETO (THE "ACCEPTING TRUSTS AND LOAN GROUPS," WHICH ARE FURTHER IDENTIFIED BY CUSIP NUMBERS ON THE RMBS TRUSTEES' WEBSITE)[1] AND OTHER PERSONS POTENTIALLY INTERESTED IN THE ACCEPTING TRUSTS AND LOAN GROUPS.

THE ACCEPTANCE OF THE SETTLEMENT AGREEMENT COULD MATERIALLY AFFECT THE INTERESTS OF THE CERTIFICATEHOLDERS. CERTIFICATEHOLDERS AND OTHER NOTICE RECIPIENTS SHOULD READ THIS NOTICE AND THE MATERIALS REFERENCED HEREIN CAREFULLY IN CONSULTATION WITH THEIR LEGAL AND FINANCIAL ADVISORS.

THIS NOTICE CONTAINS IMPORTANT INFORMATION FOR THE CERTIFICATEHOLDERS AND OTHER PERSONS POTENTIALLY INTERESTED IN THE RMBS TRUSTS. ALL DEPOSITORIES, CUSTODIANS AND OTHER INTERMEDIARIES RECEIVING THIS NOTICE, AS APPLICABLE, ARE REQUESTED TO EXPEDITE THE RE-TRANSMITTAL OF THIS NOTICE TO CERTIFICATEHOLDERS IN A TIMELY MANNER.

This notice is given to you by the RMBS Trustees under certain applicable Pooling and Servicing Agreements or other similar agreements governing the Accepting Trusts and Loan Groups (the "Governing Agreements"). Capitalized terms used in this notice and not otherwise defined have the meanings assigned to them in the Settlement Agreement.

ACCEPTANCE OF THE SETTLEMENT AGREEMENT

In notices to Certificateholders dated December 19, 2014 and December 31, 2014 (the "Notices"), the RMBS Trustees informed Certificateholders that they had notified Citigroup that, following an evaluation process in which the RMBS Trustees, among other things, considered reports prepared by expert advisors, the RMBS Trustees each accepted the Settlement Agreement with respect to the Accepting Trusts and Loan Groups within such trusts, subject to Final Court Approval through a judicial instruction proceeding as set forth in Section 2.03(c) of the Settlement Agreement. The RMBS Trustees' acceptance of the Settlement Agreement extended the Tolling Period for the Accepting Trusts and Loan Groups as set forth in Section 2.04 of the Settlement Agreement.

The execution version of the Settlement Agreement is available on the RMBS Trustees' Website within the tab entitled "Certain Relevant Documents" (available at: http://www.citigrouprmbssettlement.com/pdflib/Citigroup_RMBSTrust_Settlement_Agreement_EXECUTION_VER.pdf). Copies of the Notices are posted on the RMBS Trustees' Website within the tab entitled "Notices" (available at http://www.citigrouprmbssettlement.com/notice.php).

ARTICLE 77 PROCEEDING AND IMPLICATIONS UPON THE EFFECTIVE DATE OF THE SETTLEMENT AGREEMENT

The RMBS Trustees have commenced a judicial instruction proceeding pursuant to CPLR § 7701, *In the Matter of the Application of U.S. Bank National Association, et al.*, (Index No. 653902/2014) (the "Article 77 Proceeding"), in the Supreme Court of the State of New York, County of New York (the "Court"). In the Article 77 Proceeding, the RMBS Trustees are seeking a judgment that (i) the RMBS Trustees' acceptance of the Settlement Agreement on behalf of the Accepting Trusts and Loan Groups was a reasonable and good faith exercise of the RMBS Trustees' authority under the applicable Governing Agreements, and (ii) barring Certificateholders from asserting claims against the RMBS Trustees with respect to the RMBS Trustees' evaluation and acceptance of the Settlement Agreement and implementation of the Settlement Agreement in accordance with its terms. Such a judgment, if granted, would constitute, after becoming final and non-appealable (including the expiration of any time to apply for discretionary review), "Final Court Approval" under and as defined in the Settlement Agreement.

On January 28, 2015, the Court entered an Order to Show Cause (available at http://www.citigrouprmbssettlement.com/pdflib/41_Order_to_Show_Cause.pdf) approving a notice program and directing that, among other things:

- a hearing (the "Article 77 Hearing") will be held on May 19, 2015 at 10 a.m. at the Supreme Court of the State of New York, County of New York, 60 Centre Street, New York, New York 10007;
- any Certificateholder or other person potentially interested in the Accepting Trusts and Loan Groups may object to or support any aspect of the Settlement Agreement and request to be heard at the Article 77 Hearing by submitting a written notice prior to the Article 77 Hearing in the manner required by the Court;
- any objections to, or submissions in favor of, the Settlement Agreement must be filed with the Court and served upon the RMBS Trustees' counsel by April 17, 2015;
- any responses to objections or submissions in favor of, or with respect to, the Settlement Agreement, must be filed and served by May 4, 2015;
- any Certificateholder who fails to object in the manner required by the Court shall be deemed to have waived the right to object (including any right of appeal) and shall be forever barred from raising such objection before the Court or in any other action or proceeding, unless the Court orders otherwise; and
- the Court retains jurisdiction over the RMBS Trustees, the Accepting Trusts and Loan Groups and all Certificateholders (and their successors-in-interests, assigns or transferees) for all matters related to the Settlement Agreement and the Article 77 Proceeding.

Following the Article 77 Hearing, the Court will determine, among other things, whether to grant the requested judgment and will consider other important matters described in the Settlement Agreement. If the Court grants the requested judgment, and such judgment becomes final and non-appealable (including the expiration of any time to apply for discretionary review), and if the other conditions to Final Court Approval and the effectiveness of the Settlement Agreement are satisfied, (i) the Settlement Agreement will become effective and (ii) all Certificateholders will be bound by the Settlement Agreement regardless of whether they appeared in the Article 77 Proceeding or submitted any objection to the Settlement Agreement. On its Effective Date, the Settlement Agreement will affect the rights and interests of all Certificateholders (and their successors-in-interests, assigns or transferees) in the Accepting Trusts and Loan Groups, including by, among other things, releasing claims against Citigroup on behalf of the Accepting Trusts and Loan Groups arising out of or relating to the Rep and Warranty Claims. Please refer to the Settlement Agreement for a complete description of the releases provided for therein.

All papers filed on the public docket for the Article 77 Proceeding have been made available on the RMBS Trustees' Website within the tab entitled "Court Documents – New York State Court Proceeding" (available at http://www.citigrouprmbssettlement.com/NYcourt.php), which will be updated periodically to include any new filings. You should also be able to obtain any documents filed with the Court by visiting the e-Courts tab within the Court's website (available at: http://www.nycourts.gov/).

Certificateholders should NOT direct inquiries to the Court or the Clerk of the Court. If you have any questions, you may call (855) 382-6442 (toll-free) or (614) 779-0359, or send an email to Questions@citigrouprmbstrusteesettlement.com.

OTHER MATTERS

This notice references certain terms of the Settlement Agreement and the Article 77 Proceeding and is not a complete summary or statement of the material terms thereof, of relevant law or of relevant legal procedures. Certificateholders and other potentially interested persons are urged to review carefully the Settlement Agreement and to consider its implications, including the releases of the Rep and Warranty Claims.

Certificateholders and other persons interested in the Accepting Trusts and Loan Groups should not rely on the RMBS Trustees, their counsel, experts or other advisors retained by the RMBS Trustees, as their sole source of information. Certificateholders and other potentially interested persons are urged to consult with their own legal and financial advisors.

Please note that this notice is not intended and should not be construed as investment, accounting, financial, legal, tax or other advice by or on behalf of the RMBS Trustees, or their directors, officers, affiliates, agents, attorneys or employees. Each person or entity receiving this notice should seek the advice of its own advisors in respect of all matters set forth herein.

Please be further advised that each of the RMBS Trustees reserves all of the rights, powers, claims and remedies available to it under the Governing Agreements and applicable law. No delay or forbearance by an RMBS Trustee to exercise any right or remedy accruing upon the occurrence of a default, or otherwise under the terms of the Governing Agreements, other documentation relating thereto or under applicable law, shall impair any such right or remedy or constitute a waiver thereof or an acquiescence therein.

Each of the RMBS Trustees expressly reserves all rights in respect of each applicable Governing Agreement, including without limitation its right to recover in full its fees and costs (including, without limitation, fees and costs incurred or to be incurred by such RMBS Trustee in performing its duties, indemnities owing or to become owing to such RMBS Trustee, compensation for such RMBS Trustee's time spent and reimbursement for fees and costs of counsel and other agents it employs in performing its duties or to pursue remedies) and its right, prior to exercising any rights or powers in connection with any applicable Governing Agreement at the request or direction of any Certificateholder, to receive security or indemnity satisfactory to it against all costs, expenses and liabilities that might be incurred in compliance therewith, and all rights that may be available to it under applicable law or otherwise.

Deutsche Bank National Trust Company
HSBC Bank USA, National Association
Law Debenture Trust Company of New York
U.S. Bank National Association
each acting in its capacity as trustee, separate trustee, successor trustee, or other similar capacities of the RMBS Trusts

[1] CUSIP numbers appearing on the website maintained by the RMBS Trustees located at http://www.citigrouprmbssettlement.com (the "RMBS Trustees' Website") at the tab entitled "List of RMBS Trusts" (available at http://www.citigrouprmbssettlement.com/pdflib/CGU%20Citigroup%20RMBS%20Trusts_6.13.14%20302pm.pdf) have been included solely for the convenience of the Certificateholders and pertain to trusts in addition to the Accepting Trusts and Loan Groups. The RMBS Trustees assume no responsibility for the selection or use of such CUSIP numbers and make no representations as to their correctness.

EXHIBIT A

List of Accepting Trusts and Loan Groups

Accepted subject to Final Court Approval through a judicial instruction proceeding as set forth in Section 2.03(c) of the Modified Proposed Settlement Agreement

U.S. Bank National Association, as Trustee
CMLTI 2005-1 Group I
CMLTI 2005-1 Group II-1
CMLTI 2005-1 Group II-2
CMLTI 2005-1 Group III
CMLTI 2005-10 Group I-1
CMLTI 2005-10 Group I-2
CMLTI 2005-10 Group I-3
CMLTI 2005-10 Group I-4
CMLTI 2005-10 Group I-5
CMLTI 2005-10 Group II
CMLTI 2005-11 Group I
CMLTI 2005-11 Group II
CMLTI 2005-11 Group III
CMLTI 2005-2 Group I-1
CMLTI 2005-2 Group I-2
CMLTI 2005-2 Group I-3
CMLTI 2005-2 Group I-4
CMLTI 2005-2 Group I-5
CMLTI 2005-2 Group II-1
CMLTI 2005-2 Group II-2
CMLTI 2005-3 Group I
CMLTI 2005-3 Group II-1
CMLTI 2005-3 Group II-2
CMLTI 2005-3 Group II-3
CMLTI 2005-3 Group II-4
CMLTI 2005-3 Group III
CMLTI 2005-4 Total Pool
CMLTI 2005-5 Group I-1
CMLTI 2005-5 Group I-2
CMLTI 2005-5 Group I-3
CMLTI 2005-5 Group I-4
CMLTI 2005-5 Group I-5
CMLTI 2005-5 Group II-1
CMLTI 2005-5 Group II-2
CMLTI 2005-5 Group II-3
CMLTI 2005-5 Group III-1
CMLTI 2005-5 Group III-2
CMLTI 2005-5 Group III-3
CMLTI 2005-5 Group III-4
CMLTI 2005-5 Group III-5
CMLTI 2005-6 Group I
CMLTI 2005-6 Group II
CMLTI 2005-6 Group III
CMLTI 2005-7 Group 1-1
CMLTI 2005-7 Group 1-2
CMLTI 2005-7 Group 1-3
CMLTI 2005-7 Group 1-4
CMLTI 2005-7 Group II-1
CMLTI 2005-7 Group II-2
CMLTI 2005-7 Group II-3
CMLTI 2005-7 Group II-4
CMLTI 2005-7 Group II-5
CMLTI 2005-8 Group I-1
CMLTI 2005-8 Group I-2
CMLTI 2005-8 Group I-3
CMLTI 2005-8 Group I-4
CMLTI 2005-8 Group II
CMLTI 2005-8 Group III
CMLTI 2005-9 Group I
CMLTI 2005-9 Group II-1
CMLTI 2005-9 Group II-2
CMLTI 2005-9 Group II-3
CMLTI 2005-HE1 Group I
CMLTI 2005-HE1 Group II
CMLTI 2005-HE1 Group III
CMLTI 2005-HE3 Group I
CMLTI 2005-HE3 Group II
CMLTI 2005-HE4 Group I
CMLTI 2005-HE4 Group II
CMLTI 2005-WF1 Total Pool
CMLTI 2005-WF2 Group I
CMLTI 2005-WF2 Group II
CMLTI 2006-4 Group II
CMLTI 2006-4 Group I
CMLTI 2006-AMC1 Group I
CMLTI 2006-AMC1 Group II
CMLTI 2006-AR1 Group I
CMLTI 2006-AR1 Group II
CMLTI 2006-AR1 Group III
CMLTI 2006-AR2 Group I-1
CMLTI 2006-AR2 Group I-2
CMLTI 2006-AR2 Group II
CMLTI 2006-AR3 Group 1-1
CMLTI 2006-AR3 Group 1-2
CMLTI 2006-AR3 Group 2-1
CMLTI 2006-AR3 Group 2-2
CMLTI 2006-AR3 Group 2-3
CMLTI 2006-AR3 Group 2-4
CMLTI 2006-AR5 Group 1-1
CMLTI 2006-AR5 Group 1-2
CMLTI 2006-AR5 Group 1-3
CMLTI 2006-AR5 Group 1-4
CMLTI 2006-AR5 Group 1-5
CMLTI 2006-AR5 Group 1-6
CMLTI 2006-AR5 Group 1-7
CMLTI 2006-AR5 Group 2-1
CMLTI 2006-AR5 Group 2-2
CMLTI 2006-AR5 Group 2-3
CMLTI 2006-AR5 Group 2-4
CMLTI 2006-AR5 Group 2-5
CMLTI 2006-AR5 Group 2-6
CMLTI 2006-AR5 Group 2-7
CMLTI 2006-AR6 Group 1
CMLTI 2006-AR6 Group 2
CMLTI 2006-AR7 Group 1-1
CMLTI 2006-AR7 Group 1-2
CMLTI 2006-AR7 Group 1-3
CMLTI 2006-AR7 Group 1-4
CMLTI 2006-AR7 Group 2-1
CMLTI 2006-AR7 Group 2-2
CMLTI 2006-AR7 Group 2-3
CMLTI 2006-AR7 Group 2-4
CMLTI 2006-AR9 Group 1
CMLTI 2006-AR9 Group 2
CMLTI 2006-FX1 Total Pool
CMLTI 2006-HE1 Total Pool
CMLTI 2006-HE2 Group I
CMLTI 2006-HE2 Group II
CMLTI 2006-HE3 Group I
CMLTI 2006-HE3 Group II
CMLTI 2006-NC1 Group I
CMLTI 2006-NC1 Group II
CMLTI 2006-NC2 Group I
CMLTI 2006-NC2 Group II
CMLTI 2006-NCB1 Group I
CMLTI 2006-NCB1 Group II
CMLTI 2006-WF1 Group I
CMLTI 2006-WF1 Group II
CMLTI 2006-WF2 Group I
CMLTI 2006-WF2 Group II
CMLTI 2006-WFH1 Total Pool
CMLTI 2006-WFH2 Total Pool
CMLTI 2006-WFH3 Total Pool
CMLTI 2006-WFH4 Total Pool
CMLTI 2006-WMC1 Group I
CMLTI 2006-WMC1 Group II
CMLTI 2007-10 Group 1
CMLTI 2007-10 Group 2-1
CMLTI 2007-10 Group 2-2
CMLTI 2007-10 Group 2-3
CMLTI 2007-10 Group 2-4
CMLTI 2007-10 Group 2-5
CMLTI 2007-10 Group 3-1
CMLTI 2007-10 Group 3-2
CMLTI 2007-10 Group 3-3
CMLTI 2007-2 Group 1
CMLTI 2007-2 Group 2
CMLTI 2007-6 Group 1-1
CMLTI 2007-6 Group 1-2
CMLTI 2007-6 Group 1-3
CMLTI 2007-6 Group 1-4
CMLTI 2007-6 Group 2
CMLTI 2007-AHL1 Group I
CMLTI 2007-AHL1 Group II
CMLTI 2007-AHL2 Group II
CMLTI 2007-AHL3 Group I
CMLTI 2007-AHL3 Group II
CMLTI 2007-AHL3 Group III
CMLTI 2007-AMC1 Group I
CMLTI 2007-AMC1 Group II
CMLTI 2007-AMC2 Group II
CMLTI 2007-AMC2 Group III
CMLTI 2007-AMC3 Group I
CMLTI 2007-AMC4 Group I
CMLTI 2007-AMC4 Group II
CMLTI 2007-AR1 Total Pool
CMLTI 2007-AR4 Group 1
CMLTI 2007-AR4 Group 2-1
CMLTI 2007-AR4 Group 2-2
CMLTI 2007-AR4 Group 2-3
CMLTI 2007-AR5 Group 1-1
CMLTI 2007-AR5 Group 1-2
CMLTI 2007-AR5 Group 1-3
CMLTI 2007-AR5 Group 2-1
CMLTI 2007-AR5 Group 2-2
CMLTI 2007-AR7 Group 1
CMLTI 2007-AR7 Group 5
CMLTI 2007-AR8 Group 1-1
CMLTI 2007-AR8 Group 1-2
CMLTI 2007-AR8 Group 1-3
CMLTI 2007-AR8 Group 2
CMLTI 2007-FS1 Group I
CMLTI 2007-FS1 Group II
CMLTI 2007-OPX1 Total Pool
CMLTI 2007-WFH1 Total Pool
CMLTI 2007-WFH2 Total Pool
CMLTI 2007-WFH3 Total Pool
CMLTI 2007-WFH4 Group I
CMLTI 2007-WFH4 Group II
CMLTI 2008-2 Group I
CMLTI 2008-2 Group II

Deutsche Bank National Trust Company, as Trustee
CMLTI 2005-OPT1 Total Pool
CMLTI 2005-OPT3 Total Pool

HSBC Bank USA, National Association as Trustee
CMLTI 2005-HE2 Total Pool
CMLTI 2005-SHL1 Total Pool
CMLTI 2007-SHL1 Total Pool

Law Debenture Trust Company of New York, as Separate Trustee
CMLTI 2005-OPT4 Group I
CMLTI 2005-OPT4 Group II
CMLTI 2006-SHL1 Total Pool

mality and progress in a region known for the opposite, but the reality is very different. Along with its power grid, nearly all of the country's infrastructure was clobbered during the civil war and has been only partially rebuilt. Repairing it is not easy in a society where corruption is rife.

"Lebanon is built on kickbacks," says Kamel Wazne, an analyst in Beirut. "The government and political parties are hindering the country's progress." Indeed, even the generator gangs have troubles of their own with corruption. Several generator owners in Beirut's southern suburbs say that, in order to operate, they must pay a fluctuating monthly fee to street-level officials of local Shia militias, which are also tied to prominent political parties. The same goes for many towns and villages, whether Christian, Muslim or Druze. ■

Segregation in Saudi Arabia

No men allowed!

RIYADH

More public places are catering for women only

IMAGINE the secret-society feel of a British private members' club mixed with the casual dress of a pyjama party. That is the atmosphere of Luthan Hotel and Spa, a women-only establishment in Riyadh, the austere Saudi capital. Behind tinted windows and a closely guarded front door, women shed the full-length black *abayas* they must wear in public. Bleary-eyed, they roll out of bed into the hotel gym, a facility which in lodgings hosting both sexes would be for men only. In the evening the Luthan's ladies gather for spirited natters in the restaurant, free to sit wherever they want, rather than in a "family section" shielded from the men-only area by screens.

As women have become less happy to be confined to the home, women-only facilities beyond schools and universities are proliferating. In Kingdom Mall, a shopping centre, men are forbidden to tread on one floor, where nail salons and hairdressers flank clothes shops. On Thursdays Riyadh's zoo admits women only. Curves, an American gym chain, has found favour by offering its facilities to female fitness fanatics unencumbered by their men. The new trend means more jobs for women too. In the Luthan, female porters, cleaners and IT staff cater to the guests' every whim.

But it is not plain sailing. Some Saudi clerics have campaigned for women-only gyms to be shut down; one preacher declared that sport could cause women to "lose their virginity". Women are still controlled by their menfolk, since perceived transgressions can besmirch a family's reputation. Women are banned from driving, so they still need a man to take them to their ladies-only exercise classes. A male relative must give a woman permission to attend one of the country's all-female universities.

Some say that ladies-only locales merely entrench segregation. But the rules against mixing are being challenged. In the more liberal city of Jeddah, on the Red Sea, unrelated friends of both sexes discreetly flout the law by dining together. As more women go to work, offices that once had separate lifts and rooms are becoming more integrated. And reformers note that when the women of the Shura council, a consultative body, paid their respects to King Salman last month upon his accession, for the first time they were allowed to mix freely with the men in the royal court.

Freedom of the house

Palestine's finances

No cash spells more violence

RAMALLAH

The longer Israel blocks payments, the likelier that Palestinians will erupt

THE Palestinian Authority (PA), which governs the West Bank under Israel's wary eye, is nearly broke. Israel collects $100m-plus every month on the PA's behalf in customs dues and other credits from abroad and is supposed to hand over the money to the PA in Ramallah, its headquarters. But earlier this year, after the Palestinians applied to join the International Criminal Court, Binyamin Netanyahu, Israel's prime minister, froze such transfers to mark his annoyance.

Israel has dished out this form of punishment before, though rarely for longer than a month or so. But this time Mr Netanyahu is unlikely to relent before the general election on March 17th, lest his right-wing foes accuse him of weakness. Thereafter it may take weeks, even months, for a government to be formed. So the Palestinians may have to stagger along without the transfers, which make up two-thirds of their budget, for a lot longer than usual.

By scraping together some loans, the PA managed to pay 60% of its public-sector salaries in January and February. But banks are starting to balk at lending more. The PA may struggle to pay its dues for March. Around 140,000 of the West Bank's 2.4m people are public employees.

Gaza, the other slice of Palestinian territory, which is controlled by Hamas, an Islamist movement, is even worse off. Last year Hamas signed a unity pact with the nationalist Fatah movement, which runs the PA. It was supposed to ensure public-sector workers in Gaza were paid. But Gaza's security forces have not had their salaries for the past eight months.

Israeli security forces rely on the PA to co-operate with them on security. But General Benny Gantz, who recently stepped down as Israel's military chief, has warned of the danger that might ensue if the Palestinian forces can no longer be paid. Israel's defence minister and its national security adviser have both recently urged Israel's main electricity company to relent, after it twice cut off supplies to the West Bank cities of Nablus and Jenin because the PA is said to owe it $500m.

Already violence has risen. Car-bombings and attempted assassinations have increased. Militants in Gaza calling themselves the Islamic State have threatened Palestinian intellectuals and have briefly kidnapped a local journalist. Palestinian leaders are to meet on March 8th to discuss cutting security co-operation with Israel. Jibril Rajoub, a former security chief, has given warning that violence could spread still faster.

Such threats have previously tended to prove empty. This time things may be different. The PA is increasingly unloved by Palestinians. Mahmoud Abbas, its president, is nearly 80, ten years into a four-year term, and suffering from a loss of public credibility with peace talks hopelessly deadlocked. The Israeli army has preemptively stepped up raids in the West Bank, detaining suspected militants and seizing ammunition caches. Officers fear that any small confrontation—like a shoot-out near Bethlehem this week that left a Palestinian teenager dead—may explode into a much wider conflict. ■

Also in this section

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German foreign policy

A lurch onto the world stage

BERLIN AND MUNICH

Germany is emerging, faster than it wanted, as a global diplomatic force

A YEAR ago Germany's elite launched a giant debate about the country's foreign policy. There was a perception abroad, President Joachim Gauck said in a solemn speech, that Germany was "the shirker in the international community" and had used its Nazi past as an excuse to duck out of rough-and-tumble diplomacy.

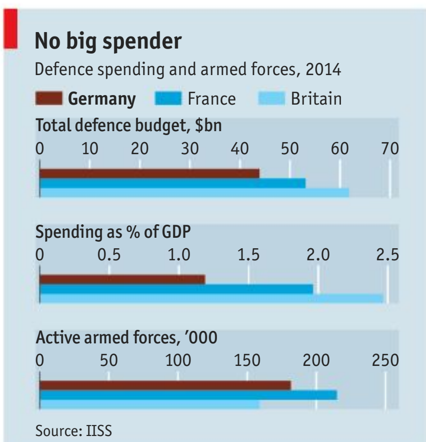
Soon after, Frank-Walter Steinmeier, the foreign minister, began an earnest public consultation called Review 2014. It involved 60 town-hall meetings with German voters and online debates with foreign experts. All were asked: what is wrong with German foreign policy and how should it change? The reactions, some vague and some utopian, were released in a big data dump this week.

Germany should be an "intercultural arbitrator", went one idea. It should "Europeanise Russia" and "multilateralise America", was another. The aim of this elaborate exchange was to bridge a yawning gap between other countries' expectations and domestic scepticism. When the Körber Foundation, a think-tank, asked if Germany should "be more engaged internationally", 37% of Germans said yes and 60% said no. With patient debate, the elite hoped, the public would gradually accept a bigger diplomatic role.

But world events did not wait for the Germans to deliberate. Russia violated the integrity of Ukraine, and thus the entire legal order that governed Europe. Then Greek voters revived the euro crisis by rebelling against austerity which they blame on Germany's chancellor, Angela Merkel.

Both crises place Germany at centre-stage while other Western powers are distracted, weak or absent. Britain's role has been negligible. France is mired in Africa. America, preoccupied elsewhere, has been hoping Europe will handle Ukraine. As diplomats note, German leadership is taking shape faster than anyone planned.

So it was by default rather than intent that Germany so rapidly became a "middle power", to use a term now fashionable in Berlin. Its new engagement is evident in the awe-inspiring stamina of Mrs Merkel's diplomacy. In one recent week, she shuttled between Berlin, Kiev, Munich, Washington, Ottawa, Minsk and Brussels on consecutive days. In Minsk, as the picture shows, she negotiated through the night for more than 17 hours with four complicated men (the presidents of Ukraine, Russia, Belarus and France).



The result of that marathon, a second attempt at a ceasefire in Ukraine, never inspired much confidence. Yet Mrs Merkel believes it is always better to keep talking than to stoke conflict. She was seven when the Berlin Wall was built, she told a security conference in Munich this month, glancing at American legislators who were urging her to arm Ukraine. The West did not react to the wall with escalation, but held firm for 28 years until it prevailed: that was the only way forward now, she suggested.

For all the new activism, German foreign policy still has distinctive features, mostly legacies of a culture of atonement. The first is insistence that Germany must never be isolated; it must act with partners and institutions. In Minsk Mrs Merkel had in tow François Hollande of France, Germany's partner in the European "tandem". (He looked like her "notary", it was said.)

In this spirit, Germany eagerly adopts any diplomatic jargon that suggests togetherness, such as a "Weimar triangle" (of Poland, France and Germany) or a "Normandy format" (of Germany, Russia, Ukraine and France). In the euro crisis German officials make sure that they have support from other members of the euro group.

Another hallmark of German style is wariness of one basic tool of foreign policy: armed force. True, Germany does its bit for NATO and sent troops to Kosovo and Afghanistan; but those forces were mainly in a support role and tried to avoid firefights. It is now actively helping NATO's efforts to react faster in eastern Europe. With Dutch help it started this month to build a "spear- ▸▸

head force" that can be deployed in two or three days. With Poland and Denmark, it is expanding NATO's eastern command centre in Szczecin. But outside its collaborative role in NATO, Germany still hews closely to its post-war pacifism. In the fight against Islamic State it sends kit but no soldiers. In the Ukraine crisis Mrs Merkel has ruled out arms shipments or any military response, with a firmness that sounds dogmatic to many American or British ears.

Compared with Britain and France, nuclear and globally oriented powers, Germany has a modest military budget (see chart). To their martial allies, German foreign-policy thinkers retort that disavowing conflict makes sense for a "middle power" which could not defeat, say, Vladimir Putin, or bear the cost in lives. Better, then, to stick with economic and political sanctions.

Neither style nor instruments amount to a strategy. Does Germany have one? It certainly has a wish-list. One is to prevent crises surging into full-fledged war. (Mrs Merkel and Mr Steinmeier have been poring over the events of July 1914, when Europe sleepwalked into total conflict.)

Another desire is moral clarity. This reflects the country's trauma over its past, says Jan Techau of Carnegie Europe, a think-tank. But such clarity is not always available in foreign policy and war, with their collateral damage and murky ethics.

A third wish is to defend the international system of rules. In Ukraine this includes the integrity of borders and the country's right to self-determination. In the euro zone it translates into reminding countries like Greece of commitments they have made, and refusing to bend treaties. A fourth objective is maintaining unity of the EU, NATO and the West.

But strategy is most needed when an existing international order threatens to collapse. In this sense, says Gustav Gressel of the European Council on Foreign Relations, Germany's strategy might at best be described as "save the rest". In the euro zone Germany and others have built a firewall around the remaining currency area in case Greece exits. Cutting off the Greeks would need toughness and willingness to incur hatred. Germany is fast learning to deal with both.

Meanwhile Germany has implicitly accepted that Crimea and parts of eastern Ukraine are lost. It wants to stop the fire spreading to the rest of Ukraine and neighbouring states. But "save the rest" falls short as a strategy against foes such as Mr Putin, who might view it as an incentive to keep reducing that salvageable remainder.

To be credible, strategy needs a full toolbox, for "diplomacy without arms is like music without instruments" as Frederick the Great said. But with voters still insisting on ethical clarity, Germany lacks the consensus to be a confident leader. Its allies should not expect too much too soon. ■

Greece and the euro

Doing the splits

ATHENS

A canny leader tests the limits of charisma

ALEXIS TSIPRAS, Greece's new left-wing prime minister, was always going to face a near-impossible task as he tried to balance the demands of the country's creditors with those of his bitterly aggrieved and hugely expectant voters.

A month after his heady election triumph on January 25th, his political skills were being tested to the limit. Finance ministers from the eurogroup had grudgingly accepted as a "valid starting-point" the reform plan submitted by the Greek government in the hope of keeping its monetary lifeline intact.

But Mr Tsipras could hardly hide from his own radical supporters the fact that he had made a series of painful climbdowns to get to that point. First he had abandoned his Syriza party's pre-election pledge to write off a big chunk of Greece's sovereign debt (amounting to 175% of national output at the end of last year) and hence draw a line under five years of harsh austerity imposed by the hated "troika" of bailout monitors from the European Commission, International Monetary Fund and European Central Bank (ECB).

Yanis Varoufakis, the finance minister, capitulated at a meeting of finance ministers on February 20th. He asked for a four-month extension of the current €172 billion ($196 billion) bailout in return for more economic reforms. Mr Varoufakis blinked only just in time, given that Greece's European Union loan programme was due to expire at the end of the month: without an extension Greek banks might have lost the financial backstop of ECB funding, triggering financial meltdown.

Athens bankers were already worried by a steady outflow of deposits: close to €20 billion has been withdrawn this year. If a deal had fallen through, capital controls would have been imposed, bringing a renewed threat of "Grexit" from the euro.

That prospect has receded for the moment but Greece is still on a knife-edge. Despite Mr Varoufakis's insistence that Syriza's programme was still on track, the list of tax, revenue and structural measures he proposed after several days of fraught exchanges with the troika (renamed "the institutions" to soothe voters) looked familiar. It resembled demands which the country's guardians had made of the previous centre-right government.

Manolis Glezos, a 92-year-old hero of Greek leftist resistance to the Nazis, was one of the first to cry foul; he begged pardon from the Greek people for having campaigned for Syriza and contributed to the illusion of change. Mikis Theodorakis, a famous composer and another veteran of the Greek left, joined in the public grumbles. Even if those irascible nonagenarians can be satisfied, a lot of ifs and buts have to be negotiated. Details of the latest plan have to hammered out, the agreement must be approved by legislators and a start must be made to implementing promised changes. If all that happens, Greece is in line to receive a much-delayed €7.2 billion loan instalment from May, in time to meet €6.7 billion of repayments due in July and August and avert a default.

There are plenty of obstacles along the way, however. Syriza has promised its creditors not to roll back reforms already in place. But sticking to that would mean abandoning plans which are cherished by ▸▸

Fears of a sell-off, or a sell-out

its voters, such as relaunching collective wage bargaining and raising the minimum monthly wage to €750, the pre-crisis level.

Privatisation is another thorny issue. Mr Varoufakis has said completed sales will not be reversed and those already under way will move ahead. Two important deals are in the pipeline: a €1.2 billion concession to run 14 regional airports, awarded last year to Frankfurt Airport in partnership with a Greek contractor, and the sale of 67% of Piraeus Port Authority, which pits Cosco, the Chinese state shipping company, against Maersk of Denmark. If these disposals go ahead as planned, other foreign investors will be encouraged to look for deals in Greece.

But Syriza's second-ranking politician, Panagiotis Lafazanis, is likely to object. He is leader of the hard-line Left Platform faction, which is said to have the backing of 30% of the party, and strongly opposes selling off state assets.

Mr Lafazanis is also minister of "productive recovery" (ie, industry), energy and environment, with five big privatisations under his control. As Syriza's 149 lawmakers met to discuss Mr Varoufakis's list of reforms, Mr Lafazanis repeated threats to stop state property being sold. ■

Greece and geopolitics

A semi-guided missile

America, much more than Europe, sees strategic stakes in the Aegean

NEVER imagine that the euro zone is the only club in which Greece is a maverick player. The Hellenic relationship with NATO, and bilateral defence ties with the United States, have long been important (although many would say diminishing) and contested.

Whatever the strains, America has often put discreet pressure on its European allies to avoid a rift with Greece, as much because of geopolitics as economics. In recent days, that pressure has been felt once more. It is not just linked to the services that Greece now delivers to NATO, which are modest; it also reflects the perils that would arise if Greece cut loose from all western clubs.

In many ways, the odd thing about Greek-NATO relations is not the history of tension but the fact that they exist at all. On the Hellenic left, it is axiomatic that Greece suffers from being a pawn in western strategic games which connived at military rule from 1967 to 1974.

Greece quit NATO's military wing for six years in 1974 after Turkey overran northern Cyprus; in 1981 leftists took power, pledging to expel American bases and ultimately take Greece out of NATO. In the 1990s Greek opinion was pro-Serbia and loathed NATO bombing that country. Study the wishlist of the ruling Syriza party today, and you will see "leaving NATO" somewhere at the end.

Yet the relationship trundles on and seems unlikely to stop. Greece hosts an air and sea facility on Crete, and American early-warning aircraft use a base near Albania. Greek ships and aircraft are listed among NATO assets, although austerity has affected their readiness. Despite Greek-Turkish rows over Aegean airspace, relations between those countries, which are both allies and historical rivals, seems just about manageable, and underpinned by strong economic ties.

Like every other small NATO member, Greece horse-trades to boost its role in the alliance structure; and as is noted by Jonathan Eyal of the Royal United Services Institute, a think-tank in London, its bargaining strength has ebbed as other southeast Europeans have joined NATO.

Quitting NATO would be a gift to regional rivals, and the new defence minister, Panos Kammenos, vows that Greece will stay for the foreseeable future. A member of a small nationalist party in coalition with Syriza, Mr Kammenos backs co-operation with America as well as Greece's warming ties with Israel, even if he feels cultural bonds with Russia as a devout Orthodox Christian.

Such details interest an American administration which knows Greece's new rulers less well than previous ones. (Two recent prime ministers, George Papandreou and Antonis Samaras, were room-mates in an American college.) American fear of "losing" Greece is palpable but has less to do with its military value and more to do with general fear of defences unravelling, says Wayne Merry, a fellow of the American Foreign Policy Council. Any breach in the dyke would bode ill, especially as Islamist fighters in Libya are just a speed-boat ride away.

America will also watch to see whether the sympathy some of Greece's new rulers feel for Russia (and reluctance to impose sanctions over Ukraine) leads to real strategic change. So far it has not. ■

Italy's labour market

Marching to a different tune

ROME

A bold move to free up employment

WHILE many people's eyes were on Greece, another southern European country was taking a very different approach to easing its economic plight. On February 20th Italy's left-right coalition headed by Matteo Renzi approved two decrees enacting the core of an employment reform that parliament had broadly endorsed last year.

The measures aim to close a yawning gap between Italy's labour-market "outsiders", who are mostly younger workers on short-term contracts with scant entitlement to welfare benefits, and the protected "insiders", typically older workers, who enjoy both job security and the certainty of an adequate pension.

The reform sweeps away a skein of temporary contracts, replacing them with one that affords new employees progressively greater safeguards until, after three years, they become entitled to a permanent job. On the other hand, the reform ends the right to reinstatement of workers judged to have been unfairly fired. (That entitlement will now be reserved mainly for victims of discrimination.) Compensation will be given instead.

That nullifies a clause in Italy's 1970 Workers' Charter that the left holds sacred. Mr Renzi's determination to meddle with it has poisoned relations between the prime minister and a big minority within his centre-left Democratic party. But his reform also creates a new benefit for the involuntarily unemployed: a monthly payment of up to €1,300 ($1,480) that can last for two years, but which starts to taper after four months. At the end of two years, a jobless worker becomes entitled to lesser benefits.

The reform has limitations. It does not affect public-sector workers, who are almost impossible to get rid of. It only applies to new hirings (though, since so many of Italy's workers are now on short-term contracts, its effects will soon be felt). The unions hate it, but employers, who will get generous incentives to use the new contract, welcomed it. Mr Renzi said it meant that "rights enter the vocabulary of a generation that hitherto has been excluded." It will help create jobs and prosperity, added his finance minister, Pier Carlo Padoan.

Both are sorely needed. Italy's unemployment rate is 12.9%, but among those aged between 15 and 29 it is 42%. The economy remains obstinately static, though most forecasters predict growth of around 0.6% this year. The hope is that the reform will raise productivity, cut unemployment and encourage investment, particularly from abroad.

But there are also some doubts. One is whether bosses will in fact start to hire more freely. And since those already in permanent work will be put on the new (and, for them, less advantageous) contract if they change jobs, there is a chance the reform could discourage labour mobility.

The bigger question is what comes next. Labour-market measures were rushed onto the government's agenda last autumn only when it became clear the economy was not recovering. Mr Renzi's priority remains political and constitutional reform, which he views as essential for decisive government, and for enabling further economic measures that Italy needs. Privatisations and some limited liberalisation are planned. But if the economy does revive, such reforms might once again go on the back burner. ■

Spanish politics

Ghosts at the feast

MADRID

An array of new players signals yearning for change

GREAT political debates in Spain can generate a powerful sense of occasion as legislators flock to a parliament building which is guarded by two large bronze lions as well as lots of police.

But when deputies gathered for a solemn state-of-the-nation deliberation on February 24th, two of the four most important parties were missing. Chief among them was Podemos (We Can), the upstart left-wing group that leads some polls and has drawn comparisons, albeit imperfect ones, with the Syriza movement that has upended Greek politics.

In recent weeks, however, a new player has arrived. Ciudadanos (Citizens), a centrist party, is scoring up to 13% in polling and it looks well placed to hurt the Popular Party (PP) led by Mariano Rajoy, the prime minister, and also to put a lid on the meteoric growth of Podemos.

With parliament closed to newcomers until a general election late this year, these insurgent parties have found a home just around the corner at the Círculo de Bellas Artes, a cultural centre. That is where Pablo Iglesias, the Podemos leader, delivered his alternative state-of-the-nation address on February 25th, blaming PP for corruption, inequality and austerity.

Like Alexis Tsipras, the new Greek prime minister, the pony-tailed Mr Iglesias is a crowd-puller. However he now has a rival in the Ciudadanos leader, Albert Rivera, who managed to fill two large rooms and left fans queuing outside when he came to Madrid from his native Barcelona on February 17th.

Aged 35, Mr Rivera is slightly younger than Mr Iglesias and equally capable of presenting himself as a breath of fresh air in a stale scene. On arrival in the capital, he presented supporters with a new recruit whose academic credentials will impress some voters: Luis Garicano, a professor of "economics and strategy" at the London School of Economics.

Mr Garicano took a swipe at Podemos's "lack of sense" before outlining a programme of pragmatic, workable economic ideas. They included labour reform to restrict the abuse of short-term contracts (massively favoured by employers as a way of avoiding the potential firing costs that permanent staff bring). Instead he would introduce a single contract in which those costs rise slowly and progressively over time. Temporary contracts currently account for 24% of jobs. He also wants American- or British-style tax credits to help the large number of Spanish workers who fail to earn the annual minimum salary of €9,080 ($10,300).

Another bright, but harder to implement, idea would encourage mobility by letting Spanish workers take incremental unemployment insurance with them from job to job. Some of these proposals may provide fast-working fixes to entrenched problems. Possibly the most vital reform was, however, one that would take many years to have an impact: modernising Spain's education system to teach skills beyond the ability to memorise swathes of facts, which the present system emphasises far too much.

Mr Rivera set up Ciudadanos nine years ago to counter nationalism in his native Catalonia, where it won 8% of the vote in 2012 regional elections. Big expectations were triggered very quickly when he decided to go nationwide. That, along with the sudden burgeoning of Podemos, is a sign of how desperate Spanish voters are for something new. ■

Rajoy, haunted by spectres

Charlemagne | Soaring hopes, dark fears

Building a decent Ukrainian state at a time of war

EUROPE means different things to different Ukrainians. One vision is on display at Mezhyhirya, the gaudy palace complex erected by Viktor Yanukovych, the ex-president, on the outskirts of Kiev. Just as he plundered the country he ruled for four years, here Mr Yanukovych ransacked the history of European design, housing himself in an oversized Finnish-style chalet surrounded by faux-Roman statues and stuffed with fake French antiques.

A rather different idea of Europe was expressed by the men and women who occupied Kiev's Independence Square, known as the Maidan. Waving European Union flags, they gathered on the streets in November 2013 after Mr Yanukovych, under pressure from Russia, spurned an association agreement with the EU. Yet "Euromaidan" appeared to be losing steam until Mr Yanukovych set his goons loose. One year ago, after security forces killed dozens of protesters, he was forced from office and fled.

For its authors in the European Commission, the agreement that Mr Yanukovych rejected (and that his successor, Petro Poroshenko, signed last June) was a technocratic exercise little different from deals made with other nearby countries. For Vladimir Putin, it was a geopolitical move to suck Ukraine away from Russia's orbit and towards the Euro-Atlantic institutions he hates. That is why the Russian president forced Mr Yanukovych's hand. Europe was ill-prepared for what followed, from the Maidan protests to Russia's annexation of Crimea to Mr Putin's war on the country's south-eastern edge.

Yet for many of the protesters the EU accord had a third meaning: as a symbol of law-based governance and an alternative to the sleaze of the Yanukovych era. The point, says one, was not to choose between Europe and Russia but to aspire to a better Ukraine. Volodymyr Yermolenko, a philosopher who took part in the Maidan, distinguishes between a bureaucratic "Europe of rules", which he says extends to the German-Polish border, and a romantic "Europe of faith", an ideal which flourishes further east, including in Ukraine. For the country's reformers the challenge is to move towards the rules without losing the faith. That has curious results: Ukraine may be the only country in Europe where one meets polo-necked intellectuals who speak with passion about the EU's food-safety standards or its visa regime.

After the Orange revolution in 2004 pro-reform Ukrainians rested hopes with Viktor Yushchenko, who became president, and Yulia Tymoshenko, the prime minister; they had protested together but fell out disastrously in office. Today, by contrast, the revolutionary energy has been channelled into a flourishing civil society as well as parliament, where up to 50 of the 450 MPs are Maidan veterans (many more, alas, belong to the old guard). Thanks to Mr Putin, some of Ukraine's old cleavages have weakened: in November a poll found that, for the first time, most Ukrainians back NATO membership.

The reformers have ambition and zeal, if not always focus. Early successes include cutting red tape and cleaning up public procurement. Mr Poroshenko wants Ukraine to be ready for an EU entry bid by 2020. His young team has made a list of 62 reforms to get there; the chosen yardsticks of progress include the number of medals won at the 2020 Olympics and the state of the domestic film industry. The officials admit the difficulty of reforming a deeply corrupt state where oligarchs hold great sway. But their gusto can obscure two harsh truths: Ukraine faces a security crisis and an economic crisis, and neither will end soon.

Money for nothing

Some Europeans, like George Soros, a financier, believe Ukraine is in such trouble that the EU must flood it with no-strings cash. Plenty in Kiev differ: like Italian or Spanish reformers in decades past, they see the EU and IMF as allies in their battle against reactionary forces at home. Aid, they say, must be on strict terms; otherwise it will reach the wrong hands and the state will stay rotten. That, so far, has been the approach of the West: Ukraine's leaders have been surprised by the tough reception they find in Brussels.

What most disappoints some in Kiev is a lack of resolve on the security front. The EU, they observe, is consumed with internal struggles: its most serious sanctions on Russia will expire this summer without the unanimous support of all 28 members, and Mr Putin is adept at exploiting cracks. The increasingly hawkish approach of Angela Merkel, Germany's chancellor, is admired in Kiev, though some lament her refusal to arm Ukrainian soldiers.

Millions have been touched by war in Ukraine; millions more by the country's economic woes, particularly its plunging currency (see page 67). The revolution that crystallised hopes may yet dash them, as life looks set to worsen: pension cuts, an end to gas subsidies and a slashing of the public payroll are conditions of IMF aid. The best outcome for the east is that it cools into a "frozen conflict" that will cause instability for years. Some people fear a "third Maidan", perhaps led by the well-armed volunteer battalions that operate independently of the army. Others, though, see war as an opportunity for deeper domestic reform.

With the latest ceasefire barely holding, the EU must keep sanctions going and prepare tougher ones against Russia. It can help in other ways, too, by granting Ukrainians visa-free travel at a summit in May, for example. Some communication measures due to be unveiled in March could, if well-judged, blunt Russia's propaganda. The EU's technocrats must support efforts to reform the judiciary, squash corruption and clean up state-owned enterprises like Naftogaz, the gas giant.

Yet the devilishly difficult work of building a state must ultimately be carried out by Ukrainians themselves. Success would vindicate those who died on the Maidan, and surprise sceptics in Brussels. It would also send a message to Moscow. ■

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Pensioner benefits

Everlasting life

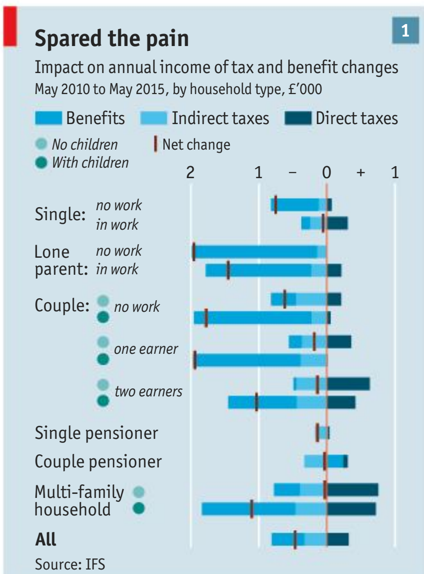
Wealthy old people are unnecessarily pampered by the public purse

DAVID CAMERON is not a prime minister used to making spending pledges. The government is halfway through an austerity programme that by one measure has lopped £100 billion ($155 billion) off spending. Yet on February 23rd Mr Cameron promised that he will continue to protect what should be considered an extravagance: universal benefits for pensioners.

In 2010 the Tories took power pledging to protect these handouts, which include free bus passes, television licences and the winter-fuel allowance, an annual cash benefit. They calculated that they were relatively cheap—today they cost £3 billion in a £215 billion welfare budget—but electorally hugely valuable. Unlike the young, the elderly tend to vote—and usually Tory.

The government kept its promise and then some. As well as sparing pensioner handouts the chop, it implemented a Liberal Democrat pledge to "triple-lock" the state pension, a near-universal payment to the old, such that it rises by the maximum of prices, earnings or 2.5%. That has meant a juicy 5% real-terms rise since 2010, while wages and working-age welfare have fallen. Both main parties have pledged to keep the triple-lock—a pledge that could cost over £5 billion a year by 2020.

In December George Osborne, the chancellor of the exchequer, went further still, introducing two "guaranteed growth bonds" exclusively for the over-65s. One pays an interest rate of 4% on three-year deposits—more than five times the government's 0.7% borrowing cost. Thanks to this generosity, a wealthy pensioner who puts the maximum £10,000 in each bond will gain £570 a year. Unsurprisingly, demand for the giveaway was high, but the chancellor saw this as a reason to expand the scheme rather than rein it in.



The government has almost entirely spared the elderly from austerity, according to the Institute for Fiscal Studies, a think-tank. Whereas households have lost on average about £500 from spending and tax changes that directly affect their income, pensioners—particularly couples—have lost barely anything (see chart 1).

That protected vulnerable pensioners from hardship—and indeed many are poor. But there is a smaller crop of aged high-rollers. The top fifth of pensioner couples enjoy an average income of £65,000, topped up to £75,000 by the state pension. These people—the types who have a spare £20,000 to invest in Mr Osborne's bonds—have also kept their handouts.

One group has been treated better than the old: middle-income workers without children. These folk benefited from a rise in the personal allowance—the amount that can be earned before paying income tax—to £10,500, and have been less affected by welfare cuts. But the only reason pensioners did not share in those gains was that their personal allowance was already high. (Ending this disparity in 2012 was dubbed the "granny tax", demonstrating that merely equalising income tax across generations is politically toxic.)

All these favours add up. After accounting for all government intervention—including indirect taxes and spending on services—retired people of any given private income are much better off than those of working age (see chart 2). This disparity is greatest for the well-off. Those with a private income of £40,000 receive about £4,000 from the state, whereas workers on a similar income pay in over £10,000.

That is worrisome, as the number of rich pensioners is about to get larger. Those aged between 55 and 64 have more hous- ▸▸

Respect your elders

Household income, 2012-13, £'000

2

Source: ONS

*After all taxes and benefits, adjusted for household size

ing wealth than any other generation. Although it is usual for those on the cusp of retirement to be wealthier than youngsters, the baby-boomer generation has also benefited from several decades of enriching house-price growth—to the cost of younger generations.

In his speech Mr Cameron pointed to reforms, such as raising the retirement age, that have trimmed pensions obligations in the long-run. These are welcome, but will affect today's workers, not those who have already retired. Today's pensioners will keep most of their benefits whoever wins in May (Labour would take freebies away from the richest 5%, saving a paltry £150m). A gravy-train is hard to stop when it is fuelled by votes. ■

Decentralising health care

Control yourself

Manchester gets a new dollop of autonomy

BRITAIN is one of the West's most centralised countries. Its national government does 77% of all public spending, compared with 58% in America and 19% in Germany. Even swaggering London, with its mayor and elected assembly, raises just 26% of what it spends (by comparison, New York raises 69%). The Conservative-Liberal Democrat government has tried to correct this, but with mixed results. Voters rejected its plans for elected mayors and yawned at the chance to elect regional police commissioners. When it handed two-thirds of the National Health Service (NHS) budget to local consortia of doctors (known as "clinical commissioning groups" or CCGs), professional and patient groups howled in opposition, rightly accusing it of weakening political accountability. Top-down decentralisation, it seems, rarely works.

Ministers appear to have learned their lesson. On February 25th it emerged that local authorities, clinicians and George Osborne, the chancellor of the exchequer, were proposing to transfer control of the £6 billion ($9.3 billion) of public money spent on health care in Greater Manchester to local hands. They want to create a health and wellbeing board, made up of NHS and local-government representatives, to administer a single budget for the conurbation. A trial version is expected to take shape in April. More details were due to be announced as *The Economist* went to press. The city region's doctors and hospitals will still be bound by national targets for things like waiting times, and subject to national regulations and inspections, but the board is a welcome idea nonetheless. It is bottom-up, pushed by local figures rather than imposed by the government, and it advances two positive trends.

The first is the integration of health and social care. Long-term conditions like diabetes, dementia and depression are now responsible for 70% (and rising) of Britain's state health-care spending. They require a mixture of medical and non-medical attention. For example, Respublica, a think-tank, last year found that the cost of treating a depressive 82-year-old fell by two-thirds when visits by nurses and doctors were replaced with council-run communal activities. Given the strain of an ageing population on the public purse, most politicians now accept that budgets for care (which sit with local authorities) and medical treatment (which sit with the CCGs) should therefore be merged, and managed locally. By putting councils and CCGs in joint charge of a single pool of money, Greater Manchester's proposed board would do just that.

The second positive trend is that regional conurbations are becoming more powerful. Manchester has led the way: in 2011 ten local councils in and around the city formed a "combined authority" to manage services and infrastructure jointly. From 2017 an elected mayor will take charge of the body (including responsibility for the new health-care board). Already it has deftly merged services to make money go further; for example, integrating fire and ambulance teams to create a single unit for helping elderly people who fall at home. Its health-care plan pioneers a model of local accountability that, if successful, could spread to other large cities; most obviously London and Leeds. It could even provide a template for the devolution of welfare and education powers.

But the initiative will also test Britons' willingness to tolerate regional variation (or "postcode lotteries", as tabloid newspapers call it). Andy Burnham, the opposition Labour Party's shadow health secretary, warned that Manchester's proposals could turn the NHS into a "Swiss cheese", with some parts more autonomous than others; taking the "national" out of the National Health Service. His comments are not easily reconciled with his party's stated commitment to decentralisation. Public services can be nationally uniform or locally accountable. They cannot be both. ■

Divorce

Work to rule

England becomes a slightly worse place for idle ex-wives

ENGLAND has long been the jurisdiction of choice for wives who have the luxury of being able to choose where they divorce. English law (Scotland is different) tries to balance lifelong need and fairness. The poorer partner—typically a wife bringing up children—can expect housing and many years of income, especially if she has sacrificed her career for the marriage.

A court ruling on February 23rd has nonetheless continued a recent trend of tilting the balance a little towards husbands. Tracey Wright objected to her ex-husband's bid to cut her £75,000 ($116,000) annual maintenance, awarded after an 11-year marriage failed in 2008. She argued that she was too busy with the two children (one at boarding school, the other, aged ten, at home) even to look for work. She lost, on appeal. Lord Justice Pitchford said Mr Wright's payments should taper off as he neared retirement and that his ex-wife should get a job.

The ruling is a legal landmark chiefly because it sets out a mother's duty at least to have to seek a job as her children grow older. As David Hodson, a specialist lawyer, notes, that principle has long applied to poor women when it comes to claiming welfare benefits. But an ex-wife will still be able to argue that no suitable work is available for her and that she needs her ex-husband's help in order to keep up her own and her children's living standards. Such arguments would cut little ice in most other countries.

The ruling will not dent London's attraction as a global centre for divorce. English divorce law, with its bespoke solutions reached after costly legal wrangling, is also likely to remain a luxury service, out of reach to all but the very rich.

Bagehot | The great, the good and the ugly

Two of Britain's most respected politicians embarrass themselves and their democracy

THE establishment view is that the public rage aimed at two of Westminster's longest-serving and most respected MPs, Sir Malcolm Rifkind and Jack Straw, this week was unwarranted—a case of anti-politics feeling gone mad. Foolishly entrapped—in a snare a half-blind rabbit could have spotted—the two former foreign secretaries, Sir Malcolm a Conservative, Mr Straw for Labour, were both caught pitching to an undercover television reporter for what they believed was a lucrative opportunity to push the interests of a Chinese company. It was embarrassing; both protested they had broken no law, which may prove to be true. Yet the self-serving establishment view is wrong. Politicians peddling influence for cash is reprehensible, whatever the rules; and in the current, febrile mood, Sir Malcolm and Mr Straw have done serious damage to the system they once served with distinction.

Mr Straw's case looks the worse of the two. Hitherto a Westminster watchword for probity, the former Blairite star took pains to tell his entrapper he could not consider her putative offer until after his retirement as an MP, in May. Yet by meeting her in his Westminster office, he appeared to break parliamentary rules. More seriously, the lobbying exploits he bragged of—to illustrate the commercial advantages of his operating "under the radar"—appeared to contravene at least the spirit of the law. British MPs may not accept payment for lobbying the government. Mr Straw said he had successfully importuned the European Commission and Ukrainian government—at least once alongside a serving British ambassador—to change their rules on behalf of a commodity trader that pays him £60,000 ($93,000) a year.

By comparison, Sir Malcolm's performance mostly made him look objectionable. He suggested he would be happy to work for the fictitious Chinese company on the basis that he was "self-employed" and had plenty of "free time". This was despite the fact that he is paid £67,000 a year by the taxpayer, and was, until this week, chair of Parliament's ultra-sensitive intelligence and security committee. In a subsequent, regrettably self-righteous, denunciation of his entrappers, he sought to retain these positions; and thereby ensured he lost both. Though one of Westminster's most stylish performers, Sir Malcolm has long been at arm's length from the Tory leadership, which gave it plenty of clearance room to swing the axe. He was denied the Tory whip, informed that he would be investigated for the easily proved charge of embarrassing his party, and, taking the hint, announced that he would resign his seat in May. Mr Straw has been suspended by the Labour whip, and must now wait to see whether the peerage he had been counting on will be forthcoming.

The damage this has done was evident in the funereal tones in which both Tory and Labour MPs discussed it. Even the thickest-skinned, most securely seated are worn down by the hostility they encounter daily on the doorstep, and on which the UK Independence Party, Greens and other threatening insurgents are feasting. By seeming to confirm an impression that Westminster is rotten, encouraged by recent scandals including a giant furore over fraudulent MPs' expenses in 2009, Sir Malcolm and Mr Straw have probably raised the antipathy a notch. If only their political masters, David Cameron, the Tory prime minister, and Labour's Ed Miliband, could bring themselves to co-operate a bit, they might show how unfair that impression is.

Relatively few MPs earn much from freelancing; only 30 out of 650 double their parliamentary salary, typically through part-time legal work. Otherwise, the opportunity cost of a Westminster career has never been higher. The state's retreat from the economy and higher standards of accountability have ended the fat sinecures, including seats on state-owned company boards, that once sweetened a life of political service. The propensity of some MPs—typically, as in the current scandal, those approaching retirement—to resort to greasy lobbying illustrates that dwindling of opportunity. It is a form of despair: Mr Rifkind's financial demands of his Chinese tempter—between £5,000 and £8,000 a day—are well above what most voters earn, but hardly exorbitant for a distinguished former foreign secretary.

Younger, so still ambitious, MPs mostly steer clear of such temptations. Better than their complacent elders, they know the hunger of once-friendly, now rapaciously unforgiving, media for uncovering such abuses. Even demonstrably legitimate outside work runs the risk of a public pillorying. One MP fears he may be earning too much from freelance journalism to escape media censure. Meanwhile, the expenses scandal has put an end to the other tacit means by which British MPs traditionally augmented their low salaries—fiddling a Westminster expense claim would be madness now—even as the professionalising of politics is forcing them to enter Parliament ever younger. The result is that, while working hellish long hours on often meaningless parliamentary work, many are bringing up families—in London, if they want to see their children—on salaries well below what a general practitioner earns. That is not a recipe for the high-quality politicians Britain needs to regain public trust in its democracy.

Men of Straw

The outlines of a solution seem obvious. Britain needs fewer MPs—400 is probably ample—doing more meaningful work, for better pay; a basic salary of around £110,000, or what a head teacher can expect in London, sounds about right. It is also, despite the anti-politics rage, an argument Mr Cameron and Mr Miliband could jointly make. But there is no sign of that. Mr Miliband wants to ban MPs performing the corporate advisory roles that Tory ones are most likely to bag. Mr Cameron, frightened of his backbenchers, demurs. Meanwhile, both furiously reject the modest increments to MPs' pay that Parliament's own independent overseers recommend. That is not going to endear them to anyone. It is a beauty contest between drowning men. ■

Also in this section

Islam and extremism

Looking within

CAIRO AND LAGOS

There is a heated debate about the role of Islam in jihadism. Will it make a difference?

WESTERN leaders have long urged Muslims to do more to counter jihadist ideology. This month Barack Obama said moderate Muslims, including scholars and clerics, had a responsibility to reject "twisted interpretations of Islam" and the lie "that America and the West are somehow at war with Islam". On February 23rd Tony Abbott, Australia's prime minister, urged Muslim leaders to say that Islam is a religion of peace—"and mean it".

Muslims have not taken kindly to such hectoring. Yet they are starting to debate the role that Islamist ideology plays in extremism. On February 22nd Ahmed al-Tayeb, the grand imam of Egypt's al-Azhar mosque, part of a university that is the Sunni world's oldest seat of learning, declared that extremism was caused by "bad interpretations of the Koran and the Sunna [the doings of the Prophet Muhammad]", and that what was taught in Islamic schools and universities needed to change.

The doctrines of *jihad* and *takfir* are central to the debate. Extremists interpret *jihad* as mandating offensive holy war, though they may disagree about when and against whom it should be waged. The evidence from the *hadith* (the Prophet's sayings) and renowned scholars that Islam is a religion of the sword is "so profuse that only a heretic would argue otherwise", claims the most recent issue of *Dabiq*, the magazine of Islamic State (IS). Extremists differ, too, about *takfir*, the process whereby Muslims declare other Muslims to be apostates or unbelievers, for which the penalty is death. Al-Qaeda applies the doctrine with some limits to avoid alienating Muslims from its cause; IS invokes *takfir* wholesale, especially against Shias, perhaps in the belief that cinematic gore is the stronger lure.

Mainstream clerics are trying to rebut such views. "*Jihad* does not mean holy war but striving to achieve peace and anything good in obedience to Allah," says Dauda Bello, an imam from Nigeria's north-eastern region, where Boko Haram, an Islamist insurgent group, rampages. Last year 120 Muslim scholars wrote to Abu Bakr al-Baghdadi, IS's leader, saying that he had misconstrued Islam by ignoring the context of the Koran, classical teaching and the current era. *Takfir*, they said, can only be pronounced on those who have openly professed unbelief. It is properly carried out only by *ulema* (a group of recognised experts in sacred law and theology), which will first offer the opportunity to repent. To prove the point, al-Azhar will not call IS non-Muslims.

The authority of al-Azhar, Tunisia's Zitouna mosque and Saudi Arabia's University of Medina rests on their long histories and tradition of scholarship. The approach of al-Azhar, which was founded in 970 and led the integration of Islamic and secular subjects, is "based on teachings which the Muslim *umma* [community] has approved over thousands of years", says Muhammad Mehanna, an adviser to Mr Tayeb.

But Sunni Islam, unlike the Shia form, has no pre-eminent doctrinal authority, nor, since Ataturk ended the already weakened caliphate in 1922, anything resembling a single leader. This makes it harder to hold the line against extremists. Four schools of *sharia* law and thousands of *hadith* allow much room for interpretation. Both IS and Boko Haram argue from primary sources and ancient scholars. Supporters of IS point out that their leader has a PhD in Islamic studies from Baghdad University and claims to be of noble and learned stock.

Governments in the Middle East are trying to counter such new claims of authority by imposing their own versions of Islam. Last year Egypt sacked 12,000 preachers and replaced them with al-Azhar graduates, who must preach on government-approved themes. Saudi Arabia, which itself espouses a puritanical form of Islam, has long co-opted clerics with cash and is adding CCTV in mosques (ostensibly to prevent theft). Overhauling religious education in schools is being discussed, too. In 2012 the Carnegie Endowment for International Peace, a think-tank in Washington, DC, found that Egyptian textbooks embraced *jihad* against both infidels and enemy countries. Callers to a recent radio show about radicalisation on FM Masr, an Egyptian station, said such books needed to be rewritten. In Nigeria imams are setting up schools that combine secular and Islamic education, since teachers in traditional religious schools are often low-level imams barely out of their teens.

Complicating attempts to shore up traditional sources of authority is the fact that the establishment is precisely what many extremists reject. Salafists (devout Muslims who seek to emulate the times of the Prophet), both of the quietist and the violently ▸▸

jihadist sort, see much of the centuries-old tradition of Islamic jurisprudence as distorting the true religion. When denounced by the emir of Kano, a former central banker who is now Nigeria's second-most-important Muslim leader, Boko Haram retorted: "We do not practise the religion of Lamido Sanusi…but the religion of Allah."

And Muslim-majority populations that have risen up against dictators are less willing to trust religious authorities—especially those they regard as captured by political or government interests. Egypt's government appoints the head of al-Azhar. Members of Dar al-Ifta, Lebanon's official body for teachings and *fatwas* (rulings on Islamic law), come from its two main political groupings. Middle Eastern rulers have a history of alternately backing religious groups and denouncing them as terrorists for short-term political gain.

The internet, social media and improving literacy in the region make other sources easier to find. "I think about religion myself by searching and seeing the different opinions," says Muhammad Gamal, a chemistry teacher at Cairo University. Alternatives are often better packaged and more appealing to young people, too. A region-wide joke says that Mr Baghdadi, in his 30s, is the youngest person to head an Arab organisation.

"You see ISIS videos, all slick Hollywood style, and what a stark contrast with the turbans and robes of the sheikhs of Al-Azhar," says Raphaël Lefèvre, a French scholar who studies Lebanon's Sunnis. "Radical groups seem closer to the people. Institutions are seen as bourgeois, stuffy and speaking a language people don't understand." Some Muslim scholars compare the appeal of jihadism to that of fundamentalist Christianity: the message is clear and certain.

Firm government action against those who preach violence is probably worthwhile. And traditional centres of Islamic authority could surely do more to explain their interpretations of Islam, and in more appealing ways. But the result of the debate within Islam about the roots of extremism may not be entirely to the taste of liberal Muslims—or Western politicians.

Imposing state-sanctioned creeds has in the past pushed jihadists underground. And these versions of Islam are by no means sure to be more liberal: the Saudi regime uses harsh *sharia* punishments such as beheading and last year al-Azhar launched a campaign to rid Egypt of unbelief after a survey claimed the country held precisely 866 atheists. But the alternative, attempting to promote liberal doctrines in a free market of religious ideas, has dangers, too. Georges Fahmi, an Egyptian scholar, detects a conservative mood among Muslims: "What is shocking is how many people support IS's actions even if they would not do them themselves." ■

Women and jihad

Caliphate calling

How Islamic State appeals to women

JUST one message was ever sent from Shamima Begum's Twitter account: "@muhajirah—follow me so i can dm you back." Sent on February 15th to Aqsa Mahmood, a Scottish woman who joined the Islamic State (IS) in Syria in 2013, it shows that Ms Begum, a 15-year-old Londoner, wanted to send private messages to a known go-between in the region. A few days later she flew to Turkey with two friends. British authorities think they have already crossed into Syria.

Some 10-15% of the Westerners who have gone to Syria and Iraq to join IS are women, reckons Peter Neumann of the International Centre for the Study of Radicalisation (ICSR), a think-tank in London. That is a higher share than joined the *jihad* in Afghanistan in the 1980s. Some travelling today are known to be from America, Britain, Finland, France, Germany and Sweden. As in the past, most are following their men. But many are single—a new trend.

In a study of female IS recruits, the Institute for Strategic Dialogue (ISD), also London-based, quotes Umm Khattab, a woman thought to be British who writes on social media from Syria: she describes meeting "other sisters" in Turkey, some with children, at least one married, before they reached IS territory. Others seek partners among the fighters. Single women may not live unsupervised. "I really need sisters to stop dreaming about coming to Shaam [Greater Syria] and not getting married," blogs Ms Mahmood.

Before leaving, Ms Begum was following a variety of extremists on Twitter (see below). Women who have already made the journey use such media to groom those considering it. Since accounts can be suspended, they encourage hopefuls to contact them through Kik, an instant-messaging app, or websites such as ask.fm.

These propagandists for *jihad* describe life under IS and wartime domesticity. Ms Mahmood gloats about microwaves and milkshake machines seized from non-believers. But they also express the pain of leaving families and the feeling of being very foreign in the Middle East. In a series called "Life of a *Muhajirah* [emigrant]", a pregnant woman posts a picture of her ultrasound and worries that her husband will be become a *shahid* (martyr), though she accepts that this may be God's will.

By establishing a caliphate, IS, unlike previous jihadist groups, is attempting to build a state. That has opened up roles for women. Fighting, though, is off-limits. "Women in the Islamic State", a document published in January by an all-female unit of IS known as the al-Khansaa Brigade (translated into English by the Quilliam Foundation, a counter-extremism think-tank in London), explains that women should be mothers and homemakers, while men are by nature restless; "if the roles are mixed the basis of humanity is thrown into a state of flux and instability."

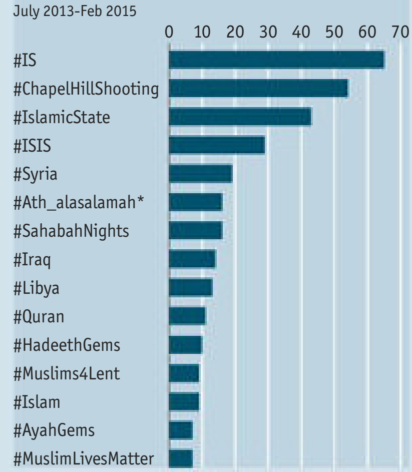
If women cannot fight in Syria, why do they choose to go? Some express anger towards Bashar Assad, Syria's president, for persecuting the Syrian people, or towards the coalition IS is fighting and the West more generally. They lament the treatment of Muslims in non-Muslim lands. A few relish the violence. One describes repeatedly watching a video of a beheading, and demands more such films. ■

How a schoolgirl was radicalised

Before leaving Britain, Shamima Begum followed 74 Twitter accounts, overwhelmingly to do with Islam. Some quoted the Koran or retweeted stories of alleged atrocities by Western troops in the Middle East. Others spread gory photos of dead Islamic State fighters with prayers that Allah "accept our brother", or jihadist sites that respond to fans' requests, such as "Describe your ideal wife".

Ms Begum's timeline shows how Twitter led her to Syria. Her only tweet made contact with a go-between in the region. The most frequent hashtags recently in her feed (11,000 tweets) related to Islam; mostly to Islamist extremism. Innocent pieties, such as #Islam or #SahabahNights (which expresses comradeship with the Prophet), appeared less often.

Frequency of hashtags in Shamima Begum's Twitter feed, latest 200 tweets from each account
July 2013-Feb 2015



Sources: Twitter; *The Economist*

*Tweeted in Arabic

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

Natural gas

Golden scenarios

A promised golden age of gas is arriving—but consumers are cashing in well before producers do

ONCE upon a time, in a world in which oil was costly and energy sources seemed scarce, the International Energy Agency, a think-tank for countries which import fossil fuels, produced a special report heralding a "golden age of gas". That was in 2011. It suggested that fast-rising demand, chiefly from emerging economies and in power generation, could lead gas to displace coal by 2030.

Big energy companies shared that optimism. High prices and rising demand in East Asia, especially China and Japan, encouraged them to pile into huge projects in places such as Australia and Papua New Guinea to produce liquefied natural gas (LNG), either from offshore drilling or, in the case of a $20 billion project in Queensland by BG Group of Britain, from gas found in coal beds. America, awash with gas thanks to the shale boom, began rejigging coastal terminals originally built for importing LNG, so as to begin exporting it.

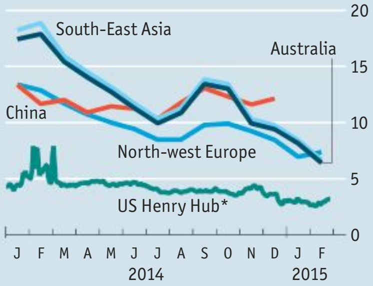
But something unexpected happened. Coal, despised as the dirtiest fossil fuel, underwent an unexpected renaissance, notably in Europe, displacing gas in power generation. This was partly because of plentiful supplies of cheap coal on world markets, and partly because the European Union's regime for trading in permits to emit carbon dioxide was so flawed that coal was not getting taxed out of the market, as had been intended. (This week the European Parliament made moves towards reforming the regime.)

So demand for LNG has been broadly flat for the past three years. The result is a buyers' market, intensified by the recent weakness in the oil price. Natural-gas prices are plunging (see chart 1). This month the American spot-market price, as measured at the giant Henry Hub distribution node in Louisiana, has been around $2.75 per million British thermal units (MMBtu), the lowest since mid-2012. The spot price of LNG in the vital market of Japan fell to $6.65 per MMBtu, the lowest level for five years—and below the European price for the first time in four years.

This is indeed a golden age, then, but for gas consumers. Investors in large gas facilities such as liquefaction plants are hurting. As with the oil price, the gas-price slump is the result of weak demand and booming supply (though without the added ingredient of a collapsed cartel). Millions of tonnes of new capacity are coming on-stream, as projects begun when energy prices were high reach completion.

Price pressure 1

LNG spot prices, $ per million BTUs



Sources: Argus; Thomson Reuters *Pipeline gas, not LNG

Global export capacity is set to rise by a third, from 290m tonnes per year (mtpa) at the end of 2013 to nearly 400 mtpa by 2018. Australia will overtake Qatar to become the largest exporter, tripling its capacity to 86 mtpa by 2020. America starts exporting this year. Two giant LNG projects that tap into gasfields off the coast of Western Australia are due to come on-stream next year: Chevron's $30 billion, onshore Wheatstone complex, and Shell's Prelude plant, based aboard a giant ship (pictured) and costing perhaps $13 billion. In Papua New Guinea, Exxon's $19 billion project began shipping gas last May, ahead of schedule.

Now, in what a report from Sanford C. Bernstein, a research firm, calls an "anxiety attack", new investment has stalled. No big, new LNG projects have been announced for months. The business is so capital-intensive that long-term contracts, which account for three-quarters of global trade, are essential. Such contracts mean that weak spot prices are less of a problem for gas-producing countries than for oil states. But for energy firms, contracts are no longer providing the comfort cushion needed for big investments. Buyers are taking advantage of the weak market, and driving hard bargains. Last year Japan, for example, signed contracts for gas at around $16 per MMBtu. Now, contract prices are forecast to fall to $11 or lower; and with the spot price below $7, such forecasts do not seem unrealistic. Given the cost of liquefaction and shipping, American exporters could face losses.

The LNG industry's hopes rest on a ▸▸

Tighter gas 2

Global spare LNG-export capacity*

Source: Sanford C. Bernstein

*Projects in operation, under construction and likely to be built

surge in demand. Latin America is showing an unexpectedly strong appetite; sales to Britain are up; and Indonesia, once an exporter, is now importing gas. But the short-term picture is sombre. Economic growth is slowing in China and weak in Japan. Even healthy economies are using energy of all kinds more efficiently.

Other fuels are competing strongly. Japan is likely to restart some nuclear capacity this year, and can burn cheap oil in some power plants. China is pushing ahead with domestic gas production, as well as clean coal and renewables, all of which displace imported gas in power generation. European customers can use LNG as a bargaining chip against suppliers such as Russia's Gazprom, but demand in Europe is declining, not rising.

With so many energy consumers looking for cleaner fuels but not yet ready to give up entirely on hydrocarbons, the long-term outlook for gas looks strong. Demand for gas as a transport fuel is set for rapid growth. Some carmakers, such as Fiat Chrysler, are promoting gas-powered versions of their vehicles, whose fuel economy makes them attractive even at a time of cheap petrol. The motor industry is struggling to meet ever tighter emissions standards in America, Europe, Japan and China, and one way to comply with them is to sell more gas-powered vehicles. Sales of ones that run on compressed natural gas (CNG), such as motorised rickshaws, are booming in India and China.

Indian Railways has begun switching its trains to run on CNG. Worries about pollution from the heavy oil used by marine engines have prompted tough new emissions rules in the Baltic Sea and in American coastal waters. This is prompting a switch to vessels that run on LNG. Timo Koponen of Wartsila, a Finnish company that builds gas-powered marine engines, says the main constraint now is refuelling. But America is opening its first LNG bunkering facility, in Port Fourchon, Louisiana. It carried out a trial refuelling earlier this month.

A switch towards generating electricity in smaller plants closer to consumers (which cuts distribution costs) is also increasing demand for gas at the expense of other fuels. Richard Kauffman, the head of energy policy for New York state, notes that small-scale, gas-fired "combined heat and power" (CHP) plants are now more economical than ever. Some businesses and apartment blocks are beginning to install their own full-time gas generators, cutting their dependence on mains power.

The current freeze on new projects means that demand growth may begin to outstrip supply growth within a few years (see chart 2). Thereafter the current glut may dwindle, allowing producers to recover pricing power. It will take time, but they should enjoy a gilt-edged future, too. ■

Smartphones

The Xiaomi shock

SHANGHAI

China's booming smartphone market has spawned a genuine innovator

"FROM the beginning, Xiaomi has considered the mobile phone to be a converged gadget of software, internet services and hardware, not just a simple device." So declared Lei Jun, the charismatic founder of Xiaomi, a Chinese smartphone-maker with global aspirations, during a recent meeting at his firm's headquarters in Beijing with Choi Yang-hee, South Korea's telecoms minister.

Bland as Mr Lei's comments may sound, the meeting revealed something important about Xiaomi. That a South Korean minister would deign to visit a Chinese tech firm which until recently was barely known outside its home country, let alone sit through such a lecture, is telling. Such has been the Korean hubris over the prowess of its *chaebol*—most notably Samsung, the world's leading mobile-phone firm—that the scene would have been unimaginable just a few years ago. It shows how worried Samsung is of being upended by what another South Korean minister has called the "Xiaomi shock".

To see what he means, consider what the firm has accomplished since its first phone was launched four years ago. Its worldwide sales were 61m handsets last year, a rise of 227% on the year earlier, making it the sixth-biggest mobile-phone firm in the world. In China, Xiaomi had leapt ahead of all its rivals, foreign and local, by the final quarter of last year, to become the top-selling brand of smartphones (see charts). This year Mr Lei wants to sell 100m units worldwide.

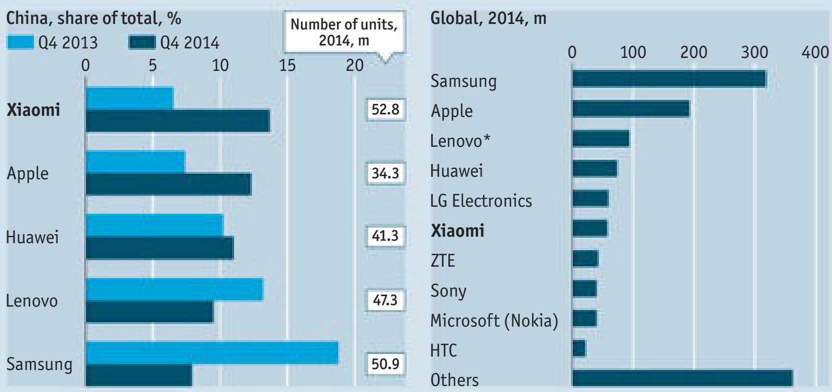
The company has already started a big push towards achieving this. Last year it began selling phones in a few South-East Asian markets, including Singapore. It also struck a deal with Flipkart, India's leading e-commerce firm, to sell handsets in that market. Earlier this month it unveiled plans to sell headphones and other accessories (though not yet phones) in America.

Conquering the world will be harder than dominating the home market. Google and its Android app store are unavailable in China, making it easier for Xiaomi's flavour of the Android operating system, and its app store, to flourish there. Few consumers in other emerging markets are as plugged into e-commerce as the Chinese are. Entering such markets may require Xiaomi, which has thus far relied mostly on internet sales and word-of-mouth buzz, to make expensive investments in advertising and in bricks-and-mortar retailing.

Profitability is also a big concern. Xiaomi, still private, releases few details of its finances. But Mark Li of Sanford C. Bernstein, a research firm, suspects that its ▸▸

Ringing the changes

Smartphone shipments



Source: International Data Corporation

*Including Motorola

Clarification: The Boston Consulting Group has asked to clarify the information it supplied to us about its forecasts for the uptake of automation in cars ("Upsetting the Apple car", February 21st). It sees fully and partly automated cars levelling off at around 25% of new-car sales by 2035, but no such limit on the market share for cars with "assisted driving" features.

handsets do not make the sort of double-digit margins earned by Apple. Even the firm admits it has enjoyed higher margins from selling millions of fluffy promotional toys—in the form of a bunny called “Mitu”—than it has from handsets.

Another snag is its lack of intellectual property. Smartphone companies are highly litigious. Unlike its more experienced local rivals, Lenovo (which has bought Motorola’s smartphone division from Google) and Huawei, Xiaomi does not have a huge patent portfolio. Lin Bin, its president, says it has been filing thousands of patents in preparation for a legal onslaught: “This is something we expect to happen.” Indeed, an Indian court is investigating claims that Xiaomi has disobeyed its order to halt sales of some of its phones in the country, over a patent dispute.

Given these obstacles, why is Samsung still worried? One reason is that Xiaomi has positioned itself perfectly to be a disrupter of firms offering overpriced, over-elaborate devices. Its best handsets are not quite as good as Apple’s or Samsung’s best, but they are far better than those from other, cut-rate rivals—and they cost half what an unsubsidised new iPhone does.

Consider again the sweeping assertion made by Mr Lei to the Korean minister. From the start he has understood the awesome power of the connected mobile device. That has led to a business model that blends Apple’s walled garden, which encourages users to stay loyal to its “ecosystem” of apps, with Amazon’s use of the Kindle as a loss-leader to sell lucrative content, software and services. Xiaomi started off peddling handsets without profit, but it is creating a bunch of apps, “smart home” gadgetry, online video and peripheral devices to make a return on its investment.

The other reason incumbents should worry about Xiaomi is its financial firepower. Some 29 banks tripped over themselves to offer it a $1 billion loan in October. In December several respected venture capitalists including GIC, Singapore’s sovereign-wealth fund, and DST of Russia, an early investor in Facebook, provided another $1.1 billion. Some reckon that this latest investment, which values it at $45 billion, makes the Chinese upstart the world’s most valuable startup. Xiaomi’s shock-and-awe campaign rolls on. ■

Honda

Recalling the boss

Japan’s number three carmaker has come unstuck by following the crowd

“I’D SOONER die than imitate other people,” said Soichiro Honda, founder of the firm that is now Japan’s third-largest carmaker. On February 23rd Honda’s current boss, Takanobu Ito, suffered lesser consequences after trying to follow in the tyre tracks of Toyota and Nissan. He will quit in June after a year of recalls and disappointing sales that led in January to a second profit warning in three months. His error was to embark on an over-ambitious expansion plan in an effort to close the gap with Honda’s closest rivals.

Mr Ito’s decision to quit was not unduly premature. Like him, most recent bosses have lasted for around six years. But the timing was undoubtedly influenced by the spate of recalls, which has affected millions of vehicles. Honda had to replace faulty airbags made by Takata, a Japanese supplier, that in a few instances exploded. Quality problems of Honda’s own making accounted for many others.

The recalls not only cost money but delayed the launch of new models, which hit sales. It now expects to sell 4.5m cars in the year to March, 127,000 fewer than it had hoped. One of Mr Ito’s final decisions was to abandon a target he set in 2012, for sales to be 6m by 2017. By putting all its efforts into boosting capacity, Honda has ended up with an uninspiring product range and a badly damaged reputation for reliability.

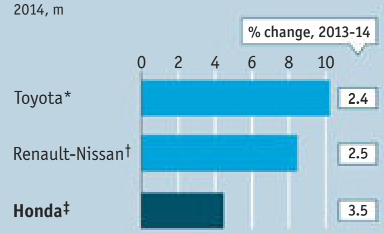
Setting up new plants in Brazil, Indonesia and Thailand has proved trickier than expected. A new version of the Fit, a small “city car”, has suffered five recalls since its launch in late 2013. In America, its main market and source of over half its revenues, Honda’s cars were once the best the mass market could offer. But it stood still as competitors caught up. Launched in 2012, a new version of the Civic, the car that made Honda’s fortunes in the 1970s and 1980s, underwhelmed the critics.

Toyota is the world’s biggest carmaker, and Nissan’s close alliance with Renault of France has put it in the motor industry’s top league. But until a few years ago Honda seemed to be following a different track. It has a strong sideline in motorbikes—it is the world’s largest maker of them, with a dominant presence in big emerging markets. Although this only provides one-seventh of the company’s revenues, it is a less volatile business than selling cars, and is nicely profitable. It has other steady businesses making lawnmowers, engines for boats and the like. It could apply its innovative capabilities across a range of related products.

Before he said his goodbyes this week, Mr Ito had begun trying to reclaim Honda’s lost advantages. He had revamped its research-and-development operations and appointed a “quality tsar”. His successor, Takahiro Hachigo, another engineer and Honda lifer, will continue those efforts. But he will also be seeking to imitate Toyota, in one sense: it too suffered serious quality problems, five years ago, as a result of rapid expansion, but quickly bounced back.

Falling behind

Total vehicles sold, global, by carmaking group 2014, m



Source: Company reports

*Includes Daihatsu and Hino Motors †Includes AvtoVAZ ‡2014 estimate

American retailing

Why Target lost its aim

CHICAGO

A discount-store chain which forgot its formula for success

AT ONE of Target’s shops in downtown Chicago, one recent weekend, customers congregated in the electronics department and the area that sells towels and bedding. Upstairs, the women’s clothes department was almost deserted. A quick examination of its stock revealed why: dowdy dresses, garish sweaters and jackets that any reasonably fashion-conscious woman under 60 would surely spurn.

For many shoppers, Target no longer hits the spot. In its annual results this week it admitted that the cost of retreating from a disastrous foray into Canada, and of closing underperforming shops in America, would be a whopping $5.1 billion.

It is an astonishing reversal of fortune. A decade ago Target had such a chic image that people called it “*Tar-zhay*” with a faux French accent. The Minneapolis-based discounter thrived after reinventing itself as a seller of designer-label clothing at affordable prices. It teamed up with designers such as Alexander McQueen, Proenza Schouler and Zac Posen, and attracted young, predominantly female shoppers with higher disposable incomes than those who usually go to discounters.

But in 2011 Target’s growth began to ▸▸

slow, and margins to shrink. Its designer lines had seemingly lost their sparkle, and the rest of its clothing range never was that impressive. The squeeze on Americans' real incomes did not help, but it struggled to keep up with the rise of "fast-fashion" retailers such as Uniqlo and Zara.

Dissatisfied with its online sales, which it had been outsourcing to Amazon since 2001, Target took direct control of them, launching a slick new website. But by then its rivals were ahead of it in e-commerce. Target also expanded its food offering, hoping to coax shoppers to visit more often—and buy a higher-margin item such as a sweater even if they had only popped in for some milk. Great theory; didn't work in practice. "They became too focused on food and consumables, and lost their *Tarzhay* cachet," says Brian Yarbrough of Edward Jones, an investment firm.

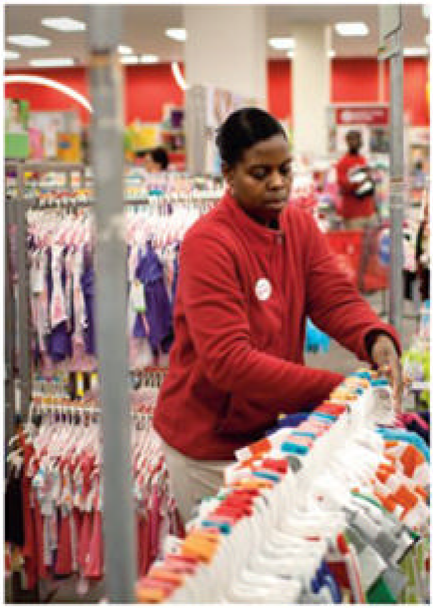
Things got far worse in 2013. During the pre-Christmas shopping season, the company suffered a massive hacking attack that compromised credit-card and other details of up to 70m customers. Shoppers deserted its stores, and profits plunged.

Meanwhile Target's newly launched Canadian operations began bleeding money. "The Canadian debacle was a symptom of a broader set of problems," says Sarah Kaplan, professor of management at the University of Toronto. Target seems to have stopped listening to its shoppers. The American executives it put in charge of the shops in Canada did not understand that Canadians tend to shop "off the flyer": special-offer leaflets are the most effective way to tempt them into a store.

Last May Gregg Steinhafel, the chief executive, was shown the door. His successor, Brian Cornell, was horrified to find, on an unannounced visit to some of the Canadian shops, that they were deserted on the Saturday before Christmas. He concluded that all 133 stores north of the border must shut. Target's first international expansion had ended in defeat.

Target's share price has recovered sharply in recent months, as confidence has grown that Mr Cornell can turn it around. But there is much to be done. David Schick of Stifel, a stockbroker, says it needs to go back to "differentiated discount", which means offering a selection of desirable items—a trendy handbag, say, or a novelty watch—which no rival is selling. The food department needs a facelift too, says David Strasser of Janney Montgomery Scott, a financial-services firm. He thinks Target should try to be more like Trader Joe's, a thriving own-label supermarket chain that is part of Aldi, a German discount-grocery giant.

Target also needs to catch up with its more successful peers in becoming an "omni-channel" retailer, offering customers a seamless choice of how to shop: in stores, on internet browsers or on smartphone apps. It has only recently begun to switch its emphasis from huge, out-of-town stores towards smaller, more central ones that provide a "click-and-collect" service for online and smartphone orders.



Where are the shoppers?

Mr Cornell has made a good start, but it is far from certain that Target can return to its glory days in the home market. As for venturing abroad again, it would face so many nimble and successfully globalised rivals that its chances would be slim. ■

Finmeccanica

Growing by shrinking

MILAN

Italy's giant defence contractor takes an important step in its restructuring

IT TOOK more than three years, but on February 24th Finmeccanica, Italy's state-controlled aerospace and defence group, said it had found a buyer for its rail businesses. Hitachi, a Japanese conglomerate, will pay €773m ($876m) for Finmeccanica's 40% stake in Ansaldo STS, a railway-signalling company listed on Milan's stock exchange, and €36m for AnsaldoBreda, a trainmaker (and lossmaker) fully owned by Finmeccanica.

The deal will make Hitachi the fourth-biggest company in the rail-equipment business worldwide, behind Bombardier of Canada, Siemens of Germany and Alstom of France. For Finmeccanica it marks an important step in the industrial plan it announced in January, following the appointment last year of a new chief executive, Mauro Moretti.

Saddled with debt and reeling from a series of corruption scandals, the Italian industrial giant has been seeking to get out of activities it now sees as non-core, to cut its debts and improve its cashflow. It is Europe's third-biggest military supplier (after BAE Systems of Britain and Airbus of France). Half its profits come from AgustaWestland, a world leader in helicopters, but the group is also into defence electronics, missiles and civil-aircraft parts. At the plan's unveiling last month, Mr Moretti said Finmeccanica was spread too thin and was wasting money where it could not win: of the 18 business areas in which it operates, it is among the leaders in only four.

Mr Moretti's mantra is to do more with less: he wants to sell a smaller range of products to more customers. Recent cuts in Western countries' defence budgets are prompting Finmeccanica, like its peers, to focus on technologies that have civil as well as military uses, and on places where defence spending is growing, such as Africa, Asia, the Middle East and Brazil.

The sale of its railway assets will reduce Finmeccanica's debt by €600m, to €3.4 billion, by the end of the year. More disposals are likely to follow, including FATA Group, which designs and builds such things as metals-processing plants, and parts of DRS Technologies, an American defence-electronics firm.

Gian Piero Cutillo, Finmeccanica's chief financial officer, says its remaining non-core businesses account for less than 1% of its €14 billion a year in sales. There is speculation it may also exit a joint venture in missiles with BAE and Airbus. But in some areas it wants to expand: it is seeking to buy a majority stake in Avio Spazio, an aerospace firm in which it has 14%.

Mr Moretti's biggest challenge is transforming Finmeccanica from a loose bunch of semi-independent businesses into a coherent whole, as Airbus has done. His predecessors tried to do this, but he is acting a lot faster than they did. He has already shed about 50 executives as he centralises the management of all units at the headquarters in Rome. He aims to save €150m over five years, by rationalising supply chains and research and development activities among the various units.

Bolshy unions and weak Italian governments have long stymied attempts to revamp Finmeccanica and turn it into a truly world-class firm. But Mr Moretti has already succeeded in reviving Ferrovie dello Stato, the state-owned railway, taking it from loss to profit. And he has strong backing from a new, reformist administration. CGIL, Italy's biggest union, is demanding meetings with the government about the sale of the rail business, and talking about blocking it. But there is ground for optimism that the country's political climate has changed sufficiently for the company's new boss to be able to push through a thorough, and much-needed, restructuring. ■

Bottled water in China

Spring tide

Pollution fears are driving the Chinese towards expensive branded waters

BENEATH the frozen flanks of East Asia's most revered mountain, in China's north-eastern Jilin province, a huddle of sleek new processing plants will soon be packaging its precious essence: spring water. Known to the Chinese as Changbaishan, the mountain and its premium mineral water are the stars of the country's frothing bottled-water market.

In a country with just 7% of the world's freshwater supplies but 20% of its population, cheaper bottles of water taken from river basins, lakes and underground, and of purified tap water, are even more popular than expensive mineral waters. In the past five years China's guzzling of bottled water has almost doubled, according to Euromonitor, a research firm, from 19 billion to 37 billion litres. It has also more than doubled its share of global consumption since 2006. In 2013 the country overtook America as the biggest market for bottled water by volume, according to Canadean, another research group.

Hygiene and health concerns among China's rising middle class have stoked demand as more migrate to cities, where water is more polluted and the bottled sort more common (typically, 19-litre barrels installed in homes). In 2009 the World Bank said water problems cost the country over 2% of GDP every year—mostly due to damage to health. In 2013 thousands of rotting pigs' carcasses were found in the Huangpu river, which supplies four-fifths of tap water to Shanghai, China's most populous city. Last April, in the industrial city of Lanzhou in the north-west, a leak from an oil company's pipeline poisoned tap water for 2.4m locals with carcinogenic benzene. And even if water meets drinking standards at source, it can be harmful by the time it reaches the tap after coursing through decaying pipelines.

Little wonder, then, that among China's ten wealthiest people is Zong Qinghou, the founder of Hangzhou Wahaha, one of its best-selling bottled-water firms. The country's three biggest brands—Master Kong (Taiwanese-owned), Nongfu Spring and C'estbon—are all based in China, and together account for a third of sales. They are among the few sold nationally; there are also about 1,500 smaller, mostly local brands. According to Abigail Barnes, a legal expert at Yale University and one of the authors of a report on the industry, 220 new bottled-water firms have appeared since 2012 in Inner Mongolia, a Chinese region notorious for its poor water quality.

In rich countries purveyors of bottled water often make dubious claims about its health benefits. But at least the product they are peddling is safe. In China, where regulation has been lax and the most popular single-serving bottles sell at around 1 yuan (16 cents), few bottlers are likely to be using the sophisticated filtration technology that would rid their water of nasty metals and bugs.

Some of the largest brands have come under scrutiny: last December the authorities in Shanghai found that a quarter of bottled water sold locally—including by Hangzhou Wahaha—was contaminated with bacteria. National regulators have raised concerns about bottlers complying with laxer local standards (which allow higher levels of such contaminants as arsenic and cadmium) rather than their own, stricter standards.

But even national health inspectors are not required, for example, to check levels of mercury, silver or acidity, according to a report in 2013 by *Beijing News*. The tests they carry out on tap water are far more stringent. Bottlers do not need to specify their source, and those extracting water from groundwater reserves can, by law, avoid treating it altogether. Yet these sources are increasingly polluted. False branding (rife among distributors of barrels, which are often reused up to a few dozen times) muddies the waters further.

The government will implement a single national standard in May. A new pricing system, introduced to Beijing last year, makes the biggest users of water sources pay higher extraction fees. That should, in practice, help to weed out the most unscrupulous bottlers. Yet much groundwater extraction goes unchecked.

All this adds up to a giant opportunity for premium waters. Although the foreign firms now produce most of their water locally, their market share is still small. Coca-Cola's waters (including Ice Dew, China's biggest foreign-owned brand) have 5.6%. Danone of France, which used to be in a joint venture with Hangzhou Wahaha but now operates alone, is close behind with 5.5%. Nestlé of Switzerland has 1.8%.

The foreign-owned brands typically sell at premium prices of around 16-18 yuan for a single-serving bottle. But consumers' growing worries about what they are drinking are making them more prepared to pay such prices. Nongshim, a South Korean food firm, is building a second bottled-water plant in Jilin province (it cut its deal before China tightened extraction rules for foreigners). The factory will produce 1m tonnes of bottled water annually, mostly for sales in China.

It faces stiff local competition. Tibet 5100, the first Chinese-owned premium brand of spring water, has sold well since it set up in 2006, with the help of a big contract to supply the main national train operator. And Nongfu Spring this month launched three new pricey bottled waters, at a sleek event in the forest near Changbaishan—each aimed at a different group (babies, schoolchildren and grown-ups), but all of them well-heeled.

Most Chinese, if they are reluctant to drink out of the tap, are still making do with cheaper bottles of filtered mains or groundwater. But as incomes rise, pollution worsens, sources of groundwater dry up and awareness grows about the risks of contaminated supplies, they will keep trading up. ■

The fresh, clean, premium-priced waters of Changbaishan

Schumpeter | Brazil's business Belindia

Why the country produces fewer world-class companies than it should

BRAZILIANS make up almost 3% of the planet's population and produce about 3% of its output. Yet of the firms in *Fortune* magazine's 2014 "Global 500" ranking of the biggest companies by revenue only seven, or 1.4%, were from Brazil, down from eight in 2013. And on *Forbes*'s list of the 2,000 most highly valued firms worldwide just 25, or 1.3%, were Brazilian. The country's biggest corporate "star", Petrobras, is mired in scandals, its debt downgraded to junk status. In 1974 Edmar Bacha, an economist, described its economy as "Belindia", a Belgium-sized island of prosperity in a sea of India-like poverty. Since then Brazil has done far better than India in alleviating poverty, but in business terms it still has a Belindia problem: a handful of world-class enterprises in a sea of poorly run ones.

Brazilian businesses face a litany of obstacles: bureaucracy, complex tax rules, shoddy infrastructure and a shortage of skilled workers—to say nothing of a stagnant economy (see next story). But a big reason for Brazilian firms' underperformance is less well rehearsed: poor management. Since 2004 John van Reenen of the London School of Economics and his colleagues have surveyed 11,300 midsized firms in 34 countries, grading them on a five-point scale based on how well they monitor their operations, set targets and reward performance. Brazilian firms' average score, at 2.7, is similar to that of China's and a bit above that of India's. But Brazil ranks below Chile (2.8) and Mexico (2.9); America leads the pack with 3.3. The best Brazilian firms score as well as the best American ones, but its long tail of badly run ones is fatter.

Part of the explanation is that medium and large firms tend to be better-organised than small ones, and not only because well-run ones are likelier to grow. Brazil offers incentives aplenty to stay bitty, such as preferential tax treatment for firms with a turnover of no more than 3.6m reais ($1.3m). As they expand, many firms split rather than face increased scrutiny from the taxman. According to the World Bank, a midsized Brazilian firm spends 2,600 hours filing taxes each year. In Mexico, it is 330 hours.

Ownership patterns play a part too. Many Brazilian concerns are controlled by an individual shareholder, or one or two families. Two-thirds of those with sales of more than $1 billion a year are family-owned, notes Heinz-Peter Elstrodt of McKinsey, a consulting firm. That is less than in Mexico (96%) or South Korea (84%) but more than in America or Europe. Mr Van Reenen's research shows that where family owners plump for outside chief executives, their firms do no worse than similarly sized ones with more diverse shareholders. But all too often they pick kin over professional managers—and performance suffers. This is particularly true in "low-trust" societies like Brazil, where bosses hire relatives instead of better-qualified strangers to avoid being robbed or sued for falling foul of overly worker-friendly labour laws.

Decades of economic turmoil—which ended when hyperinflation was vanquished in 1994—meant that companies were managed from crisis to crisis. This forced Brazilian firms to be nimble. But it also encouraged short-termism, which management consultants and academics finger as Brazilian managers' number-one sin. Faced with a record drought in 2014, and a subsequent spike in energy prices in a hydropower-dependent country, Usiminas, a steelmaker, stopped smelting and started selling power it had bought on cheap long-term contracts. Energy sales made up most of its operating profits that year. Such short-term stunts are hardly the path to long-term greatness.

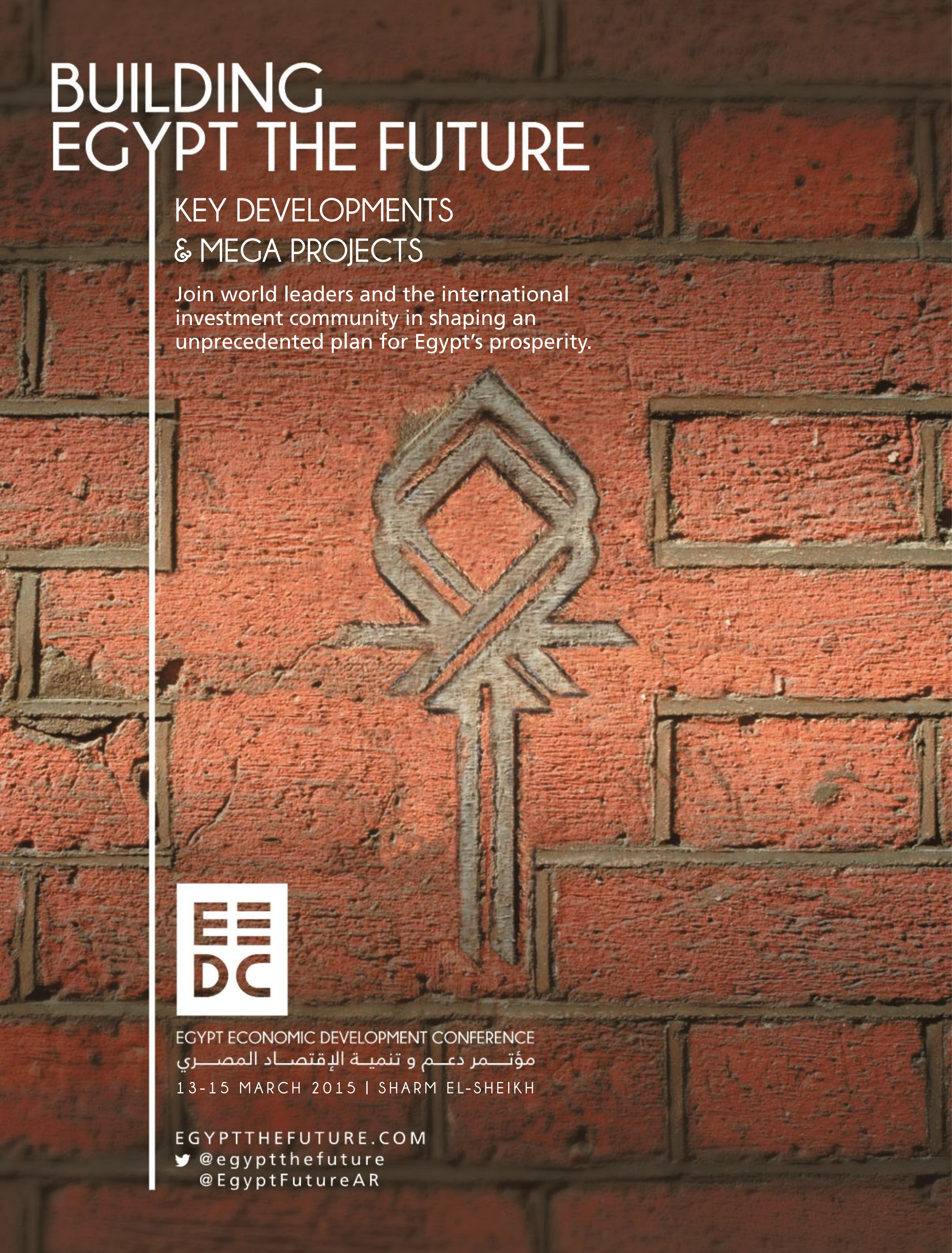
Worse, crisis management all too often consists of going cap in hand to the government. Brazilian bosses continue to waste hours in meetings with politicians that could be better spent improving their businesses. In January 2014, as vehicle sales flagged, the automotive industry's reflex reaction was to descend on the capital, Brasília, and demand an extension of its costly tax breaks. Thanks to lifelines cast by the state, feeble firms stay afloat rather than sink and make room for more agile competitors. Shielded from competition by tariffs, subsidies and local-content rules, they have little reason to innovate. A locally invented gizmo which lets cars run on both petrol and biodiesel is nifty. But, asks Marcos Lisboa of Insper, a business school, does that really justify six decades of public support for the motor industry?

The dead hand of government

Indeed, a glance at the "Belgian" end of Brazil's corporate landscape suggests that successful firms cluster in sectors the state has not tried desperately to help, such as retail or finance. Bradesco, a big lender, is internationally praised as a pioneer of automated banking. Each month Arezzo creates 1,000 new models of women's shoes, and picks 170-odd to sell in its shops.

Brazil's other world-beaters are in industries like agriculture and aerospace, which are free to compete at home and abroad, and in which the government sticks to its proper role. In 1990 farms were allowed to consolidate and to buy foreign machines, pesticides and fertiliser. Efforts by Brazil's trade negotiators opened up export markets. JBS, a meat giant, can slaughter 100,000 head of cattle a day, selling more beef than any rival worldwide. Thanks in part to Embrapa, the national agriculture-research agency, Brazilian farms have been raising productivity by about 4% a year for two decades. Similarly, a supply of skilled engineers and know-how from the government's Technological Institute of Aeronautics has helped turn Embraer, privatised in 1994, into one of the world's most successful aircraft-makers.

The success of businesses such as these offers a lesson for the state. The best way to make Brazil's underperforming firms more competitive would be to make them compete more. Coddling by the state can be more a curse than a blessing. Ronald Reagan's dictum that the nine most terrifying words in the English language are, "I'm from the government and I'm here to help," translates well into Flemish, Hindi and Brazilian Portuguese. ■



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Brazil's coming recession

The crash of a titan

RIO DE JANEIRO

Brazil's fiscal and monetary levers are jammed. As a result, it risks getting stuck in an economic rut

IT IS easy for a visitor to Rio to feel that nothing is amiss in Brazil. The middle classes certainly know how to live: with Copacabana and Ipanema just minutes from the main business districts a game of volleyball or a surf starts the day. Hedge-fund offices look out over botanical gardens and up to verdant mountains. But stray from comfortable districts and the sheen fades quickly. *Favelas* plagued by poverty and violence cling to the foothills. So it is with Brazil's economy: the harder you stare, the worse it looks.

Brazil has seen sharp ups and downs in the past 25 years. In the early 1990s inflation rose above 2,000%; it was only banished when a new currency was introduced in 1994. By the turn of the century Brazil's deficits had mired it in debt, forcing an IMF rescue in 2002. But then the woes vanished. Brazil became a titan of growth, expanding at 4% a year between 2002 and 2008 as exports of iron, oil and sugar boomed and domestic consumption gave an additional kick. Now Brazil is back in trouble. Growth has averaged just 1.3% over the past four years. A poll of 100 economists conducted by the Central Bank of Brazil suggests a 0.5% contraction this year followed by 1.5% growth in 2016.

Both elements of that prediction—the mild downturn and the quick rebound—look optimistic. The prospects for private consumption, which accounted for around 50% of GDP growth over the past ten years, are rotten. With inflation above 7%, shoppers' purchasing power is being eroded. Hefty price rises will continue. Brazil is facing an acute water shortage; since three-quarters of its electricity comes from hydroelectric dams, this is sapping it of energy. To avoid blackouts the government plans to deter use by raising prices: rates will increase by up to 30% this year. With the real losing 10% of its value against the dollar in the past month alone, rising import prices will bring more inflation.

There is little hope of disposable income keeping pace. One reason is that Brazilian workers' productivity does not justify further rises. In the past ten years wages in the private sector have grown faster than GDP; cosseted public-sector workers have done even better (see chart 1). Since Brazil's minimum wage is indexed to GDP and inflation, a recession will freeze real pay for the millions who earn it.

Unsustainable 1

Median real wage in Brazil, Q1 2004=100

Sources: Central Bank of Brazil; *The Economist*

Austerity will bite, too, as Brazil's new finance minister, Joaquim Levy, tries to balance the books. Higher taxes on fuel are being phased in, a blow for a car-loving country. If Mr Levy reforms the generous state pension, the incomes of older Brazilians will stall.

Debt payments add to the woes. Total credit to the private sector has jumped from 25% of GDP to 55% in the past ten years. With total household debt at around 46% of disposable income, Brazilian households are much less indebted than those in Italy or Japan. Yet the price of this borrowing is sky-high. Four-fifths of it is punishingly costly consumer credit (the average rate on new lending is 27%, according to the Central Bank). Once hefty principal payments are added in, debt service takes up 21% of disposable income. With the economy slowing and the Central Bank reluctant to cut interest rates because of high inflation, consumers will feel the pinch, says Arthur Carvalho of Morgan Stanley. On February 25th a survey put consumer confidence at a ten-year low.

There are few compensating sources of demand. Investment, which rose in eight of the ten years to 2013, often substantially, will sink in 2015. Petrobras, the partially state-owned oil giant that is Brazil's largest investor, is mired in a corruption scandal that has paralysed spending: the affair may cost up to 1% of GDP in forgone investment. On February 24th Moody's, a credit-rating agency, cut its debt to junk status; if Petrobras fails to publish audited results soon it may be unable to borrow at all.

Exporting is no answer, despite the falling real. Five countries—China, America, Argentina, the Netherlands and Ger- ▸▸

many—buy 45% of Brazil's exports. Ten years ago these economies' average GDP growth, weighted by their heft in Brazilian trade, was 12%; this year 5% would be good.

Yet the biggest worry is not that Brazil has a bad year, but that its broken policy levers mean that it gets stuck in a rut. Brazil spent 311.4 billion reais (6% of GDP) on interest payments in 2014, a 25% increase on 2013. This means that even if Mr Levy's fiscal drive works—he is aiming for a primary surplus of 1.2% of GDP—Brazil will be nowhere near the black. The state's outgoings have proved hard to control, with benefits payments rising despite falling unemployment. In a recession it will be harder still.

Brazil's parlous finances leave no room for debt-financed stimulus. At 66% of GDP its gross public debt is the highest of the BRIC countries. Its bonds yield 13%—more than Russia's. Rates could rise further. Fitch, a credit-rating agency, puts Brazil one notch above junk, but it has more debt, bigger deficits and higher interest rates than most countries in that category. If growth evaporates, a downgrade would be a certainty, raising debt costs even more.

Such predicaments are not uncommon, but Brazil's monetary problems are. The governor of the Central Bank, Alexandre Tombini, must choose between two nasty paths. The first is a hard-money approach: keeping interest rates high despite the weak economy. This would prop up the real and boost the bank's inflation-bashing credentials. But it is not just households that are hurt by high rates; firms are, too. In aggregate the big Brazilian firms Fitch rates have had negative cashflow since 2010. They have plugged the gap by running down savings and issuing debt. Borrowing is up by 23% in five years. With the risk of default rising, a fifth of these firms face a downgrade, in many cases imminent.

In reality, a tough monetary stance

Buttonwood | Polls apart

Voters face constraints on their economic choices

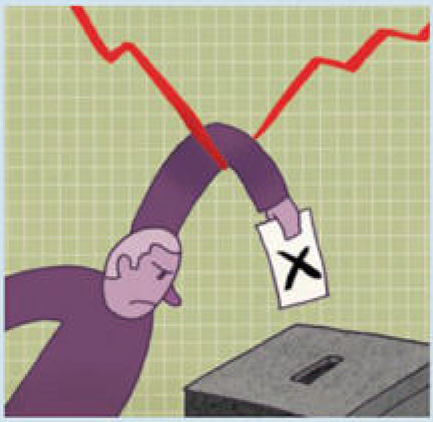
THE row about whether to modify Greece's bail-out has provoked claims that democracy is being ignored. The electoral mandate of the Syriza party, it is said, is being overridden by Greece's creditors.

In fact, there have always been limits on voters' freedom to pursue their desired economic policies. The first is on the ability of the majority to tax the minority, be it high-earning individuals or companies. Clearly there is some point beyond which higher taxes lead to lower revenues, as effort is discouraged. There is no general agreement over the point at which diminishing returns set in, but in an age of mobile people and firms, the threshold is probably lower than it used to be.

The second limit occurs when countries become dependent on international creditors for finance. They cannot force those creditors to roll over their debts, nor can they dictate the terms on which they borrow. Countries are free, of course, to default on their debts; eventually creditors forgive (or forget) and start lending again. In the short term, however, default is likely to lead to budgetary constraints. Voters may end up with austerity after all.

Economic regimes have also evolved over time, as electorates have changed. Before 1918, when the franchise in most democracies was limited to the property-owning classes, politicians favoured a low-tax, small state. After 1918 universal suffrage brought pressure on governments to intervene more heavily in the economy, providing health care, education and insurance against unemployment. Taxes rose accordingly.

After 1945 the experience of the Depression persuaded most governments to opt for Keynesian demand management, allowing deficits to expand in order to ward off recession. But the policy broke down in the mid-1970s in the face of simultaneous high inflation and unemployment ("stagflation"). The policy regime took the blame: politicians had given in to the temptation to set interest rates to gain electoral advantage and this allowed inflation to build.



Central banks then became the drivers of economic policy, using interest rates to manage the cycle. This made them unpopular when inflation was being squeezed out of the system in the late 1970s and early 1980s. But as inflation fell and interest rates came down, the central bankers were lauded as clever technocrats who had delivered the "great moderation" of steady growth and low inflation.

This change was an explicit step away from democratic control of economic policy. Admittedly, governments still define central banks' mandates and hire the people in charge. But voters who dislike the policies of Janet Yellen and Mario Draghi—the two most important economic decision-makers in America and Europe—have no direct way of getting rid of them.

The financial crisis has made central bankers even more useful than before. After 2009 most politicians in the developed world were unwilling or unable to deliver fiscal stimulus. Central banks could both provide monetary stimulus and act as willing buyers for government bonds through quantitative easing (QE), making it easier to fund deficits. The deal has appeared virtually cost-free: it has not produced the hyperinflation that some predicted. (How all this monetary support is unwound is another matter.)

However, voters in the European countries that opted for the single currency do not have a domestic central bank. It is only now that the European Central Bank is embarking on QE. And, of course, such countries have not been able to devalue their currencies, a step that helped Iceland on the road to recovery.

The economic critique of the euro zone is well-known. It is foolish to create a single currency without political or fiscal union. But would Greeks really like the kind of European superstate that could easily make big fiscal transfers? They might find themselves just as powerless as they now feel in their negotiations with creditors. Greece, after all, would have a very small weight in a euro-zone electorate.

This points to a wider problem. National politicians come to power on the back of economic promises made to their domestic electorates. But the forces that determine whether their economies prosper are global, not local—whether the Chinese economy slows down or speeds up, what happens to oil supplies and so on. National politicians will be blamed for the adverse effects of those forces, even though they are not under their control. The corrosive effect is to add to voters' cynicism about politics and undermine support for democracy.

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would have to be softened by an extension of Brazil's lavish financial subsidies. State-owned banks like BNDES, a development bank, and Caixa Econômica Federal, a retail one, made 35% of loans in 2009. Today their share is 55%. Since many Brazilian firms cannot pay private market rates (the average rate for new corporate loans is 16%) BNDES lends at a concessionary rate, currently 5.5%. That makes banking in Brazil a fiscal operation, says Mansueto Almeida, an expert on the public finances. The funding comes from the state, which borrows at a much higher rate than firms pay. The difference, a loss, is borne by taxpayers.

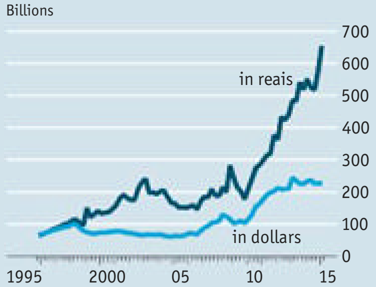
The alternative path for Mr Tombini to go down is to cut rates despite rising inflation—a daring move given Brazil's history. The cause of price increases, after all, is not an overheating economy, but the real's fall, rising taxes and the drought. The textbook response would be to "see through"—ie, ignore—this inflation.

But soft money would hurt, too. It would cause the real to fall further, and thus accelerate increases in the prices of imported goods. Foreign debts, which Brazilian firms and local governments have accumulated due to the lower interest rates on offer, would become harder to bear. Data collected by the Bank for International Settlements show dollar debts rising from $100 billion to $250 billion over the past five years. But the burden in local-currency terms has jumped much more, from around 210 billion reais to 655 billion reais (see chart 2). The state lends a hand here too, with the central bank offering swap contracts to insure firms against a falling real. The scheme cost the bank 38 billion reais in the second half of last year alone.

Faced with these poisonous options, a middle path is most likely. Interest rates will be too high for households and firms, so subsidised funding will grow. But they will be too low to protect the real, so swap costs will rise, too. Both subsidies put extra pressure on the government's finances. By mixing monetary and fiscal policy in this way, Brazil is slowly rendering both ineffective. In an economy heading for recession, that is not a good place to be. ■

Worse than it looks 2

Brazil's dollar-denominated debt:
Billions



Sources: Bank for International Settlements; *The Economist*

Credit cards in America

Slowing charge

NEW YORK

Problems at American Express are a sign of a broader blight

THERE have been few better opportunities for financial firms in America over the past half-century than providing credit cards. For customers, they offer a convenient way to pay and easy access to credit; for merchants, they simplify the mechanics of collecting money, which once required vast billing and collection departments; for third parties, they create clever channels for marketing. No wonder that the companies that provided the plumbing and the banks that offered the credit experienced years of profitable growth, with only the occasional lull when the economy was in recession.

The good times have not entirely disappeared. E-commerce has created a big new market; cheaper processing options are allowing small merchants to accept cards for purchases previously made with cash—a cup of coffee, say. An oddity in the Dodd-Frank act overhauling America's financial regulations, the so-called Durbin Amendment, boosted credit cards by penalising the main alternative, debit cards. Nonetheless, there are signs that the go-go years are gone: growth is tapering off, the margins received on lending are declining, and the cost of attracting customers is rising—even though America's economy is on the up.

The credit-card network that is most obviously struggling is American Express (Amex). Only a decade ago, Amex was widely thought to be able to expand profits and revenues annually at double-digit rates. It sets itself a target of 8%, but slower growth is now more likely, says Vincent Caintic of Macquarie, an investment bank. ▸▸

HSBC

In the stocks

Tax-evasion allegations are not the bank's only problem

STUART GULLIVER, the boss of HSBC, grumbles that publicly owned businesses are now being held to a higher standard of behaviour than bishops. A more apt comparison might be medieval monks, given the self-flagellation that the London-based banking giant has felt obliged to perform in the wake of a tax-dodging scandal. It has run grovelling, full-page apologies in newspapers, admitting that the episode is a "source of shame", and sent top brass to sit in the stocks in front of the British parliament's tomato-wielding Treasury committee.

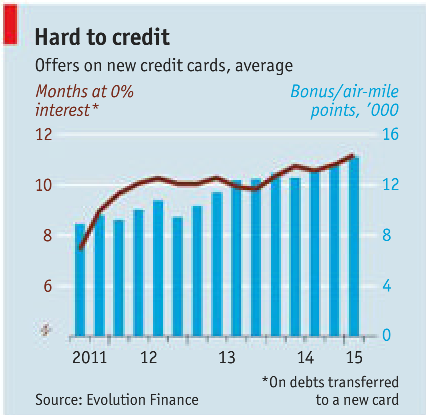
The cause of this penance is the leaking to the media of a list of over 100,000 people who held accounts at HSBC's Swiss arm in 2005-07. The documents appeared to contain evidence that HSBC bankers connived in clients' tax evasion. The bank has also had to explain why Mr Gulliver parked his pay in a Swiss account owned by a Panamanian shell company. It says the structure was designed to ensure other employees could not see what he earned, not to dodge tax.

This debacle will not have a big financial impact. In combination, however, HSBC's legal and regulatory woes are painful. The 17% fall in pre-tax profits for 2014 was largely explained by fines, legal settlements and refunds. There is more to come: HSBC has yet to resolve allegations that it manipulated currency markets; its trading of precious metals is the subject of another probe.

Add to this the need for higher capital buffers at global banks, the soaring cost of compliance and risk-management (which now account for almost a tenth of HSBC's global workforce of 257,000), and new restrictions on lenders shuffling funds between subsidiaries in different countries to boost their financial efficiency, and it is no wonder the bank has reduced its medium-term target for return on equity, from 12-15% to "at least 10%". Last year it managed only 7.3%. (Another international bank with British roots and similar woes, Standard Chartered, appointed a new CEO this week.)

HSBC came through the global financial crisis relatively unscathed. But as it grew, more than doubling its headcount in the decade to the mid-2000s, governance and controls failed to keep up, jeopardising its reputation for steady, slightly boring growth. Mr Gulliver is trying to fix that by simplifying the group. Nearly 80 businesses have been sold or closed since he took over in 2011. Yet the bank still needs to take $1 billion out of its annual expenses, just to offset growing regulatory and compliance costs.

Investment banking is another concern. HSBC has long had only a modest presence in the business compared to its peers. Since the crisis it has swum against the current by expanding it, albeit gently. The unit was the worst performer in the latter part of 2014. Mr Gulliver should not put away his whip just yet.



Some of Amex's problems are specific to it. For instance, it skims off a bigger slice of the sales it facilitates than most card networks, and had tried to ban merchants that accept its cards from encouraging their customers to use cheaper ones instead. A court has now ruled that illegal.

Other woes are a function of broader forces within the industry. Americans are not as willing to carry a balance on their credit cards as they were before the crisis: the economy is now growing much faster than revolving credit, a category composed chiefly of credit-card debt. That may be partly because banks are still leery of lending to poorer Americans; instead they are competing to offer cards to the rich.

As a result, card issuers are providing bigger rebates on purchases, more frequent-flyer miles as a sign-up bonus and longer interest-free periods for those who transfer balances from other cards (see chart). Mercator Advisory Group, a consultancy, estimates that the amount of revenue from each transaction passed back to the customer has been growing for years. In 2012 it put it at 47% for three of the biggest issuers, up from 39% in 2010.

At the same time, the airlines that have survived the many recent rounds of consolidation and the handful of retailers with which card issuers would want to partner have woken up to their own value and are demanding better deals, says Ken Paterson of Mercator. Amex, which issues cards as well as running the Amex network, had seemed to have a lock on the most acquisitive shoppers and travellers, and so was the preferred partner of any airline, retailer or restaurant that wanted to reach them. Yet both Costco, a discount retailer with high-spending customers, and JetBlue, a big airline, recently stopped using it for "co-branded" credit cards.

If there is an exception to the downturn in the industry's fortunes, it appears to be Capital One, a card-issuing bank. Its revenues (and share price) have risen sharply even as it has bucked the conventional wisdom by focusing on riskier borrowers. Before the financial crisis, this was a crowded field. Now it is all but deserted. ■

Tax evasion

Leaks on tap

Making tax-transparency standards watertight will be difficult

THE optimistic view of the tax-evasion scandals that have bedevilled banks since 2008 is that they can only be seen in the rear-view mirror. The incriminating files in the latest case, regarding tax-dodging personal accounts held at the Swiss arm of HSBC, date from 2005-07. Since then governments have embraced the idea of exchanging tax information on an automatic basis. The emerging global standard—the OECD's Common Reporting Standard (CRS)—sounds the death knell for bank secrecy, or so campaigners hope.

The optimists are right, up to a point. A tax-transparency revolution is under way, catalysed by America's Foreign Account Tax Compliance Act of 2010. But wherever there is a financial crackdown, there are also enterprising moneymen looking to exploit remaining loopholes or to create new ones. One way they are doing this is by cloaking bank accounts in other financial products, such as insurance and pensions.

Some insurers have approached banks, offering to "wrap" batches of undeclared accounts and investments in such insurance, thereby providing an extra layer of protection from prying eyes. As a result, America, Italy and others have been investigating products like "private placement life insurance", which combines an investment portfolio with gold-plated life cover for rich clients.

As scrutiny increases and the CRS moves closer to reality—implementation is set to begin in 2016—these workarounds are evolving. Under the new standard, in-

surance wrappers will have to be reported if they have a "cash value" to the holder (if, say, he can withdraw funds from the policy or pledge it as collateral). So financial engineers have turned their attention to a version that does not have to be disclosed: "irrevocable" life insurance.

This works as follows. The client pays a premium to a newly created offshore company. The assets are legally owned not by the client but by the company. This in turn is owned by the insurer, which extracts quarterly fees. The client cannot take cash out directly or use the policy as security, so it has no cash value. But he can enjoy its fruits since he can have full use of any yacht, house or other asset bought by the company. He can even be the portfolio's investment manager. If investigators start snooping around, they will find a company that is owned by a licensed insurer, not a tax-evading plutocrat.

The world's largest insurers are unlikely to hawk such products, given the reputational risks. Smaller, offshore providers will be more tempted. A consultant says he knows of at least two such insurers that have recently approached banks, offering to wrap batches of tax-dodging accounts. One of them was only interested in doing bundles of $1 billion or more, he says, suggesting this is "potentially very big".

Closing this loophole would require making all insurance reportable, not just policies with a cash value. That might seem straightforward, but moving the CRS forward can be like herding cats: there are 93 countries in the project, all at different stages of ratifying the existing blueprint.

The OECD hopes that upright financial firms will turn in rivals that abet tax evasion once the CRS kicks in, if only to stop them stealing business. Tax campaigners are another source of intelligence. A report published last year by the Tax Justice Network, whose membership includes smart tax lawyers with a conscience (supply your own punchline), identified more than 30 loopholes and exemptions in the CRS.

Andres Knobel, one of those lawyers, also points out that even if the loopholes in the CRS are fixed, it won't end all bank secrecy, but only the tax-related bit of it. Much money is parked offshore not to evade tax but to hide the proceeds of corruption or to launder criminal money. If the information is not important for tax purposes, either because the corrupt official or launderer paid taxes and declared the foreign income, or because his deposit abroad does not generate any income and thus there is no tax to pay, then under the CRS it shouldn't be shared with any authority not related to tax issues—even if this other authority questions the origin of the funds. The failure to agree to use the mountains of soon-to-be-reported data to tackle the blackest money is the biggest loophole of all. ■

Ukraine's economy

The day of reckoning

The West's inadequate support for Ukraine is being brutally exposed

IT MAY go down as one of the least effective bail-outs the world has ever seen. Not Greece's, but Ukraine's. Just two weeks ago Christine Lagarde, the head of the International Monetary Fund (IMF), promised Ukraine $40 billion over four years—an impressive-sounding sum for a country whose GDP may soon shrink to $70 billion. Since then, however, Ukraine's economic crisis has got much worse. The currency has hit new lows: a dollar now buys around 30 hryvnia (see chart). This week the central bank instituted new currency controls in a fruitless attempt to slow its plunge. Government bonds are trading at 40 cents on the dollar.

The main problem, of course, is the war in the east of the country, which, in addition to claiming many lives, is draining state coffers, putting investors to flight and bringing life in and around the war zone to a standstill. But the bail-out itself is another source of uncertainty. No one is sure where the money will come from. The IMF pledged $17.5 billion. A few billion dollars may come from other donors, including the European Union and America. Even if all goes to plan—and it probably will not—the pot is a long way short of $40 billion.

It is nearly six months since the IMF actually disbursed any cash to Ukraine. That leaves the central bank fighting a lonely battle. On February 23rd it stopped banks from lending to clients to buy foreign currencies. Two days later it banned banks from buying foreign currencies for its customers. Such controls are, at best, a salve.

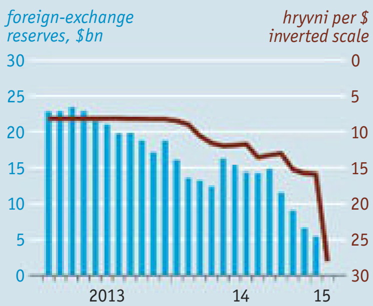
As part of the underwhelming bail-out, the government will soon have to do what it and the IMF long dismissed as unnecessary: restructure its debts. Excluding the output of the areas held by pro-Russian rebels and of Crimea, which Russia seized last year, Ukraine's debt-to-GDP ratio has probably hit 100%. The shrinking economy will push that number up while sapping revenue.

According to Ondrej Schneider of the Institute of International Finance, a think-tank, the IMF's plan implies that Ukraine will not make any debt repayments whatsoever over the next four years. The government, however, has not started negotiations with its creditors, says Timothy Ash of Standard Bank. One, in particular, will prove obstructive: Russia, which lent $3 billion to a previous Ukrainian administration, with which it got on much better. On February 24th Russia's deputy finance minister dismissed the idea of a restructuring. If Russia holds out for full repayment, other creditors may do the same.

Default would be embarrassing for the government, but things cannot get much worse for ordinary Ukrainians. By the end of the year they are likely to be a third poorer than when the Soviet Union collapsed. Inflation is 29% and will get much higher thanks to the hryvnia's slump. To tame inflation and support the currency, interest rates, already 20%, will rise further. That will make it more difficult to repay loans. Added to all that is government austerity, on which the IMF is insisting. By 2017 domestic gas prices will have increased to five times the level of 2013. The government is freezing pensions. With such high inflation, that amounts to a substantial cut. Even if the war stopped tomorrow, there would be a lot more pain to come. ■

In full retreat

Ukraine's:



Source: Thomson Reuters

Ethics and the environment

Eco-waverers

When people feel good about themselves, they do bad things

"VIRTUE," according to George Bernard Shaw, "is insufficient temptation." But new research on the consumption patterns of the environmentally minded suggests that virtue and self-indulgence often go hand-in-hand.

A recent paper* by Uma Karmarkar of Harvard Business School and Bryan Bollinger of Duke Fuqua School of Business finds that shoppers who bring their own bags when they buy groceries like to reward themselves for it. For two years the authors tracked transactions at a supermarket in America. Perhaps unsurprisingly, shoppers who brought their own bags bought more green products than those who used the store's bags. But the eco-shoppers were also more likely to buy sweets, ice cream and crisps.

You should see what's inside

Psychologists call this sort of behaviour "moral licensing": the tendency to indulge yourself for doing something virtuous. Although this example may seem harmless (except to the shoppers' waistlines), the results can be perverse. A study from 2011 on water-conservation in Massachusetts shows how. In the experiment, some 150 apartments were divided into two groups. Half received water-saving tips and weekly estimates of their usage; the other half served as a control.

The households that were urged to use less water did so: their consumption fell by an average of 6% compared with the control group. The hitch was that their electricity consumption rose by 5.6%. The moral licensing was so strong, in other words, that it more or less outweighed the original act of virtue.

Moral licensing does not seem to occur when virtuous conduct is obligatory. In one study, participants imagined themselves doing community service. Then they were asked to pick between two rewards: an indulgent one (a pair of designer jeans) and a practical one (a vacuum cleaner). If they were told to imagine that they had been sentenced to community service for a driving violation, they were much less likely to choose the jeans than if they pictured themselves as volunteers. The best way to get people to do good, it seems, is to make them feel bad about themselves.

* "BYOB: How Bringing your Own Shopping Bags Leads to Treating Yourself and the Environment", Harvard Business School working paper, December 2014.

Free exchange | Poverty's long farewell

The goal of ending poverty by 2030 is worthy but increasingly out of reach

AN UNWIELDY forum, the United Nations struggles to get nations to agree to firm targets, let alone achieve them. So it is deservedly proud of having already met its goal of halving the share of people living in extreme poverty by the end of this year, compared with the level of 1990. In fact, the milestone was reached five years early. In 1990, 36% of the world's population lived in abject poverty. By 2010 this was down to 18%. In absolute terms, the number of those in such desperate straits has fallen from 1.9 billion to about 1 billion today.

This conspicuous success has set the stage for a more audacious target: the complete elimination of extreme poverty by 2030. The World Bank has already declared this to be its objective and the UN is expected later this year to make it the cornerstone of its new development agenda. The goal is a good one. But the economic outlook for developing countries has dimmed since 2013, when the World Bank first settled on it. That, unfortunately, will make the deadline much harder to meet. On current trends it is likely to be missed, possibly by a wide margin.

Bottom up

"Ending poverty" has a very specific definition in the World Bank's book. It does not mean hoisting everyone into the middle class, far less eliminating relative poverty (in the absence of perfect equality, some will always be poorer than others). Rather, it means that no one should be living on less than $1.25 a day, in 2005 dollars, adjusted both for inflation and to take account of the lower cost of living in the countries concerned. That figure, which has become a widely accepted yardstick of abject deprivation, was first derived by taking an average of the poverty lines—the minimum income needed to satisfy basic needs—of 15 of the world's poorest countries.

It is also important to note that the World Bank has built some slack into its target. Success will be declared so long as no more than 3% of the world's population subsists on less than $1.25 a day. This reflects the assumption that "frictional poverty" will persist for many years: economic volatility and political trouble will, from time to time, knock citizens of poor countries back below the poverty line. Yet even with this leeway, there is reason to be pessimistic about hitting the target by 2030.

The case that this goal is feasible rests on extrapolations from the economic performance of the past few decades. One approach is to assume that the global poverty rate continues to fall by roughly one percentage point a year, as it has since the 1980s. That would take it below 3% before 2030. If that sounds a little crude, a second method involves simulating the effects of a range of growth rates. The poverty target would be achievable as long as consumption per person in developing countries increases by around 4% a year, roughly the pace it has achieved since 1999.

Now for the hard part

Income distribution of developing countries

% of population at each level of income

Source: PovcalNet *2005 $ at purchasing-power parity

Yet recent research from the World Bank itself casts doubt on both of these approaches.* The first projection—that poverty can keep declining by one percentage point a year—is the easiest to dismiss. The chart shows the distribution of spending by people in the developing world in 1990 and in 2011. In 1990 there was a big bulge of people spending just less than $1.25 a day. It took a relatively small boost from growth to lift this group over the threshold. But the people in the bulge are now largely out of extreme poverty; it will take ever-increasing amounts of growth to raise those lower down the scale to the same level. Most of the people still in penury live in countries with chronically weak economies or belong to marginalised groups, suggesting that it would be unrealistic to expect steady advances in their welfare.

The second projection (based on sustained 4% growth in consumption per person) does take the existing distribution of global poverty into account. But Nobuo Yoshida, Hiroki Uematsu and Carlos Sobrado of the World Bank have pointed out three other flaws. First, the projection assumes that population growth is even across developing countries, when in fact it is higher in the poorest countries than in more prosperous spots. Second, it assumes uniform growth in consumption, but growth rates in the poorest countries, particularly in sub-Saharan Africa, are slower. Third, it assumes constant levels of inequality, when growth in developing nations often comes with increased inequality.

By making country-specific forecasts for growth, demography and inequality, the researchers calculate that the global poverty rate will be 8.5% in 2030—well short of the dream of ending poverty in the next 15 years. In its new "Global Economic Prospects" report, the World Bank acknowledges the challenge. Its baseline scenario puts the global poverty rate at 5% in 2030.

Better outcomes are, of course, possible. A measure of political and economic stability in the poorest countries would, presumably, work wonders. Moreover, Christoph Lakner, Mario Negre and Espen Beer Prydz, also of the World Bank, note that it has laid out two goals. One is to end poverty. The other is to "share prosperity" by promoting income growth for the poorest 40% in every country in particular. The latter goal supports the former. If developing countries sustain their growth, and the income of the bottom 40% of their populations increases two percentage points faster every year than the overall average, the global poverty rate would fall to 2.7% by 2030.

Such outsized gains for the lower tiers of society would, as they write, be "unprecedented, and most likely unrealistic". Even so, recognising that this is the best route towards ending poverty is useful. Economic growth is the most powerful weapon in the fight against poverty but, by itself, is insufficient. Governments should also pursue policies that help the poor disproportionately, such as investment in rural infrastructure and health care. The world may not eliminate utter deprivation by 2030, but it can give itself the best chance of so doing. ■

* Sources cited in this article can be found at www.economist.com/poverty15

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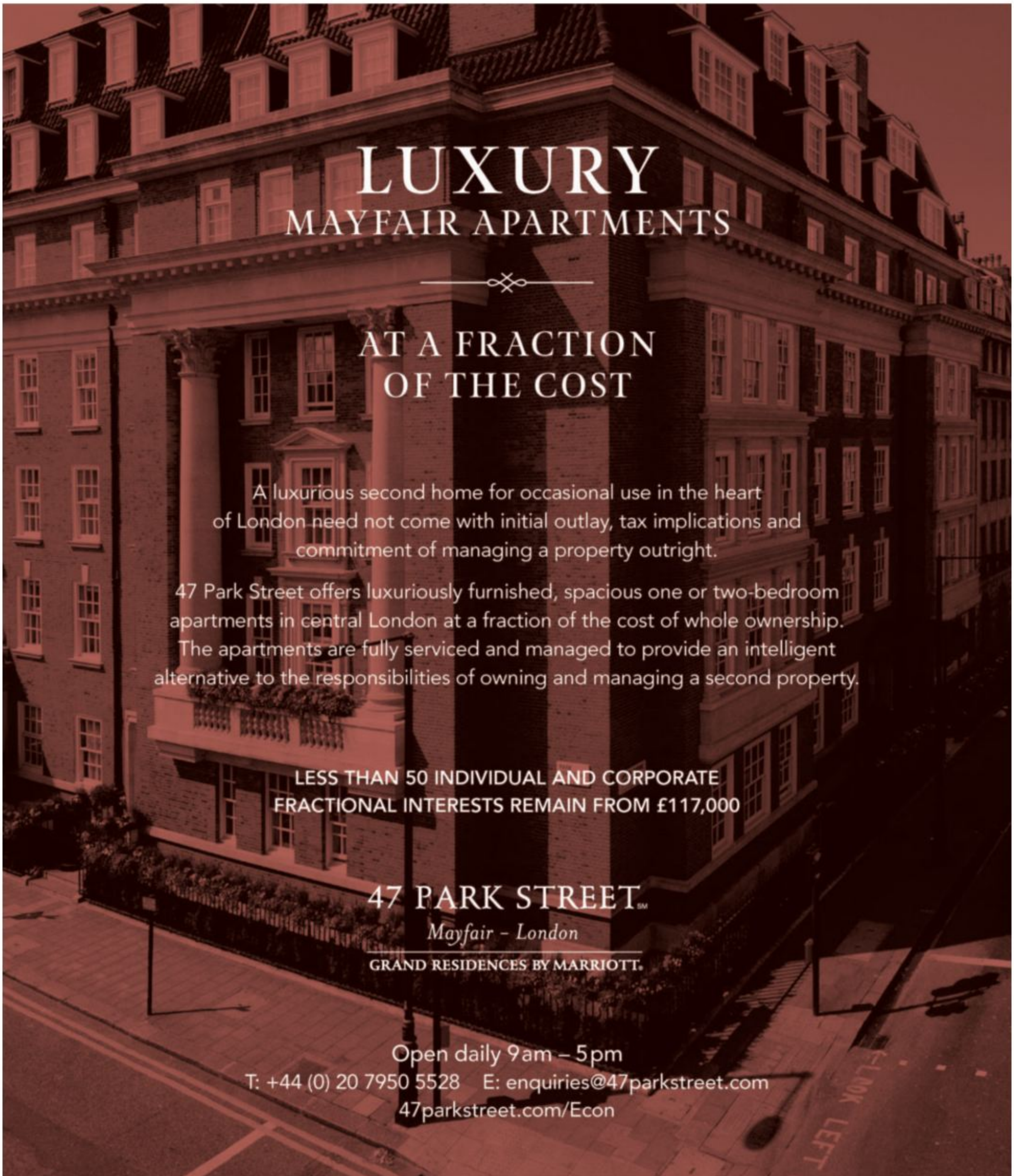
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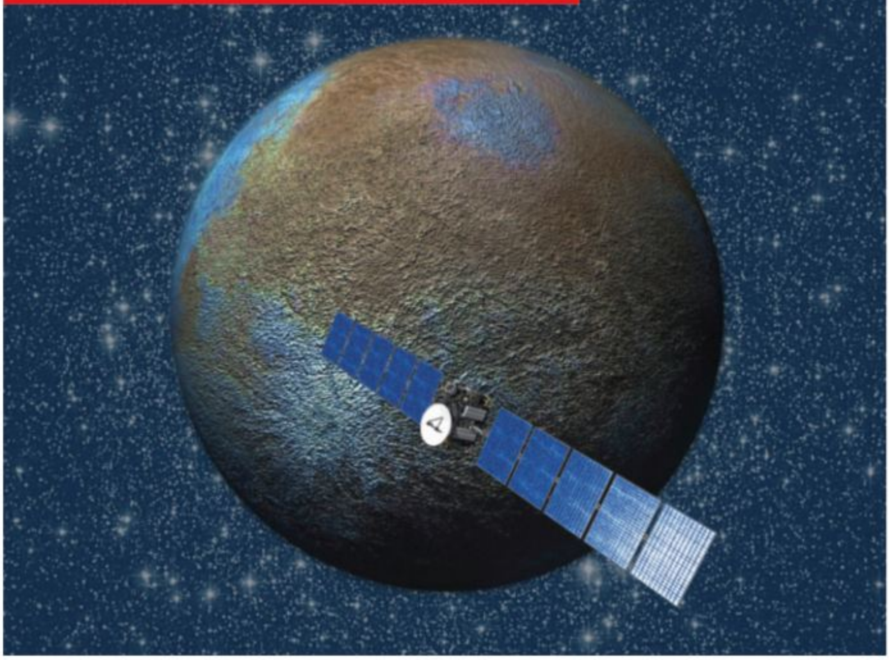

Also in this section

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A visit to the asteroids

Harvest festival

A robotic probe examines some leftovers from the construction of the solar system

FOLLOWING Pluto's demotion from that hallowed status in 2006, a generation of schoolchildren has grown up learning that the solar system has eight planets. But it came close to having nine. The asteroid belt, a ring of spacegoing rubble between the orbits of Mars and Jupiter, is the remains of a planet that failed to form during the solar system's creation 4.5 billion years ago.

The largest of these remnants is called Ceres. By planetary standards Ceres, named after the Roman goddess of agriculture, is tiny, but by asteroidal ones it is a whopper. Its 974km diameter is roughly the length of the island of Great Britain. Its mass (about 1% the mass of Earth's Moon) is enough for its gravity to make it approximately spherical. And that means Ceres is also the smallest of the solar system's five officially recognised "dwarf planets", the freshly created category into which Pluto was moved. (The other three—Haumea, Eris and Makemake—are all, like Pluto, out beyond the orbit of Neptune.)

On March 6th, assuming everything goes according to plan, Ceres will become the first of those dwarf planets to be orbited by a space probe. After an eight-year journey, including a 14-month stopover at Vesta, the second-biggest object in the asteroid belt, an American spacecraft called *Dawn* will begin a series of descending loops that will eventually bring it to within 375km of Ceres's surface.

Studying rubble—even big chunks of it—sounds less romantic than missions to the "proper" planets. But the asteroids are of great interest to astronomers, for they offer a way to test their ideas of how the solar system came to be. Astronomers know, from computer modelling and from watching it happen elsewhere, that the sun and its planets condensed out of a giant rotating disc of dust and gas. The planets formed by agglomeration, with dust grains combining to form pebbles, pebbles uniting into boulders, boulders into "planetesimals", and so on. That process was disrupted in what is now the asteroid belt by the gravitational influence of Jupiter, the solar system's largest planet.

Space archaeology

These are not merely lumps of homogenous rock. Ceres is noticeably different from Vesta. Both are big enough to be "differentiated", with cores made of dense materials such as nickel and iron and surfaces made from lighter constituents. Vesta's core is overlain by a rocky mantle. Its surface is covered with ancient lava, implying that the entire asteroid was once molten. And it seems to be as dry as a bone. Ceres, by contrast, has a smoother surface and an icy mantle. Indeed, a quarter of its mass may be water in one form or another. One of the questions that *Dawn* is seeking to answer is just how two such radically different bodies could form in the same region of the solar system.

One possibility is that they did not. Ceres looks similar in some ways to Pluto, its dwarf-planet colleague. Some astronomers therefore wonder whether it might not be a native of the asteroid belt. Instead, it may have formed further out, like Pluto, in the freezing cold beyond the orbit of Neptune, before being flung inward by the gyrations of the bigger planets.

That would fit with modern ideas of how solar systems develop. Old theories assumed that planets mostly stayed in the orbits in which they were born. But data from exoplanets—those which orbit stars other than the sun—drove a coach and horses through that idea. The galaxy seems to be full of planets in impossible places, most notably the so-called "hot Jupiters", gas giants that orbit very close to their parent stars. The intense radiation they experience means that they could not have formed there, for their atmospheres would have evaporated as fast as they formed. That means they must have moved in from elsewhere.

Newer models of how planetary systems form can accommodate such restlessness. The most widely accepted ideas about the solar system's youth now hold that Jupiter and Saturn, the two biggest planets, experienced drastic changes of position early in the solar system's life. The gravitational disruption caused by such movements would have rearranged large chunks of the rest of the system along the way. If Ceres turns out not to be an asteroid after all, it could prove a useful empirical test of such theories.

There are other mysteries, too. *Dawn*'s approach has already given astronomers their best-ever pictures of Ceres's surface, which, although smoother than Vesta's, seems rougher and more weathered than they had assumed. The place may have a tenuous atmosphere. And it may, just possibly, have pockets of liquid water, kept so by dissolved salts or other natural anti-freezes, buried within its icy mantle.

Such subsurface seas are a hot topic among alien-hunters. Water is essential for life on Earth and many believe that, because of its peculiar chemical properties, this will be true anywhere else that harbours living things. Looking for life in other watery parts of the solar system therefore makes sense, especially in places that also have the sorts of carbon-bearing chemicals which might plausibly pre-date the chemistry of life. Most of the focus is on Europa and Enceladus, moons of Jupiter and Saturn respectively, but Ceres may now join the list. It is a long shot. But long shots occasionally come off. And even if there were no evidence that Ceres had ever hosted life, it has all the ingredients needed to have hosted some interesting prebiotic chemistry, which would be the next-best thing. Earth's nearest dwarf planet could shed light not just on how the solar system got started, but how life did too. That would be a rich harvest indeed. ■

The origin of eyelashes

Mote prevention

The hairs that fringe eyelids create aerodynamic armour for the eye

EYELASHES, as any would-be *femme fatale* knows well, are seductive. But that is probably not their main purpose. Men rarely flirt by fluttering their eyelids, yet they have eyelashes, too. Moreover, the market for false lashes suggests that if seduction is their principal job, they are not as good at it as they could be.

Surprisingly, the real reason eyelashes evolved has remained unknown. Research shows that those who lack lashes, which some people do, suffer higher than average rates of eye infection. That suggests they have some sort of protective function. But exactly what this is and how it works have been mysteries. Some people hypothesise that lashes protect eyes from falling dust. Others think that they act rather like an animal's whiskers—detecting foreign bodies before they can do harm, and triggering a protective blink.

David Hu of the Georgia Institute of Technology and his colleagues think they have cracked the problem. Eyelashes do not protect eyes directly, they believe. Rather, they change the flow of air around the eye in ways that stop dust and other irritants getting in, and moisture getting out.

The crucial observation that led Dr Hu to this conclusion, which he reports this week in the *Journal of the Royal Society Interface*, was that no matter what species of mammal he examined (and he studied 22 of them), the length of its lashes was on average a third of the width of its eye. This suggested an experiment.

To conduct it, he and his team built a small wind tunnel, and also models of eyes that could have their ersatz lashes swapped for ones of different lengths. Using these, they studied airflow around and through the lashes, how that affected evaporation from the model eye's cornea, and also how many particles (in the form of dust-sized drops of coloured water) settled on the cornea's surface. They then used fluid mechanics to try to work out what was going on.


Bigger isn't always better

Nature has, it turns out, arrived at the optimum eyelash length to keep the cornea moist and dust-free. By reducing airflow over the cornea, eyelashes create a boundary layer of slow-moving air. That stops dust getting through, and also promotes water retention, since moisture is not blown away. Up to a point, the boundary layer grows thicker as the lashes grow longer. But long lashes also act as a funnel, channelling moving air into the eye and disrupting the protective layer. The thickest boundary layer comes when there is a one-to-three ratio between lash length and eye width. Eyelashes have, like many other bodily features, acquired a second function as a signal. But their main job, it would seem, is to be a wind break.

Mass extinctions

Did dark matter do in the dinosaurs?

One scientific mystery may have caused another

EVERY 250m years the sun, with its entourage of planets, completes a circuit of the Milky Way. Its journey around its home galaxy, though, is no stately peregrination. Rather, its orbit oscillates up and down through the galactic disc, the place where most of the galaxy's matter is concentrated. It passes through that disc once every 30m years or so.

This fact has long interested Michael Rampino of New York University. He speculates that it could explain the mass extinctions, such as that of the dinosaurs and many other species 66m years ago, that life on Earth undergoes from time to time. Palaeontologists recognise five such humongous events, when up to 90% of species have disappeared. But the fossil record is also littered with smaller, though still significant, blips in the diary of life.

Many hypotheses have been put forward to explain these extinctions (they may, of course, not all have the same explanation). The two with most support are collisions between Earth and an asteroid or comet, and extended periods of massive volcanism. Dr Rampino observed some time ago that collisions might be triggered by gravitational disruptions of the Oort cloud, a repository of comets in the outermost part of the solar system. That would send a rain of them into the part of space occupied by Earth. This has come to be known as the Shiva hypothesis, after the Hindu god of destruction.

Oort-cloud disruption, Dr Rampino assumed in the past, would have been caused by passing stars, such as the encounter, 70,000 years ago, between the solar system and a star known as Scholz's star which was reported in *Astrophysical Journal Letters* on February 12th. Now he is not so sure. In his latest paper, just published in the *Monthly Notices of the Royal Astronomical Society*, Dr Rampino speculates that the real culprit may be not stars, but dark matter—and that this might explain the volcanism as well.

Dark matter is stuff whose nature remains unknown. It is more than five times as abundant as the familiar matter that atoms are made of, but tends to interact with atomic matter only through gravity. The effect of this gravitational pull permits astronomers to measure where dark matter is, and they thus know that in the Milky Way it is concentrated, like atomic matter, in the disc. Add the effects of dark matter to those of atomic matter as the solar system passes through the galactic disc, Dr Rampino observes, and disruption of the Oort cloud is even more likely.

He is not the first person to have this idea. But he also argues that mutual gravitational attraction between dark matter and Earth will cause dark matter to accumulate at the planet's core. And that is where things get interesting, for some theories about what dark matter is made of suggest its particles are their own antiparticles. This, if true, would mean that when they meet they annihilate each other in a burst of energy. Concentrating those particles inside a body like Earth would make them more likely to meet. And those meetings would create quite a lot of heat—sufficient, Dr Rampino suggests, to cause abnormal amounts of volcanism.

This is all guesswork, of course. Even the original Shiva hypothesis is widely doubted. Some researchers, Dr Rampino among them, claim that extinctions do seem to happen every 30m years or so. Others disagree, and say they are irregular.

How much irregularity Dr Rampino's hypothesis can tolerate is unclear. There is bound to be some. Individual comet strikes are random events, even if the likelihood of one happening varies on a predictable cycle, and the detailed make-up of Earth's interior at any given moment will affect exactly when eruptions happen. It may be too much to expect a clean pattern, with all that variation around.

But if Dr Rampino does turn out to be right, it will be an example of how important dark matter, ethereal though it be, really is. There is a tendency, even among physicists, to refer to atomic matter as normal and dark matter as strange. This would be a reminder that it is dark matter, not the "normal" sort, which is actually in charge. ■

Synthetic biology

Strange medicine

LA JOLLA

A way to treat bacterial infections with artificial viruses

SET a thief to catch a thief is an old proverb. In the 1920s, shortly after the discovery of viruses, it was put to good use by doctors. They found they could treat certain infections with bacteriophages—viruses that attack bacterial cells but not mammalian ones.

Phage therapy, as this practice is known, fell out of favour in the West after the development of antibiotics, although it continued in parts of the old Soviet sphere of influence. (These days, research is still carried out in Georgia and Poland). But antibiotics are faltering as resistant strains of germ evolve. Some Western researchers are therefore looking afresh at phages, hoping, with modern methods, to turn them into tailored treatments for infection.

One such group of scientists works at Synthetic Genomics in La Jolla, California. This firm, the creation of Craig Venter, an entrepreneurial geneticist who once took on the American and British research establishments in a race to sequence the human genome, plans to re-engineer several sorts of organism—phages included—into what it hopes will be useful products.

The phage work is run by Sammy Farah, head of the firm's vaccines and therapeutics unit. His team is developing phages for use against antibiotic-resistant strains of *Pseudomonas*, a bug that causes skin infections, sepsis and—particularly in those with cystic fibrosis—potentially fatal pneumonia. Phage therapies in Georgia and Poland mix dozens of strains of wild phage together into a cocktail, in the hope that one will do the trick against the bug that a patient is infected with. Dr Farah and his colleagues, by contrast, are able to synthesise viruses from scratch, using off-the-shelf chemicals. They can thus design them precisely, down to the last atom.

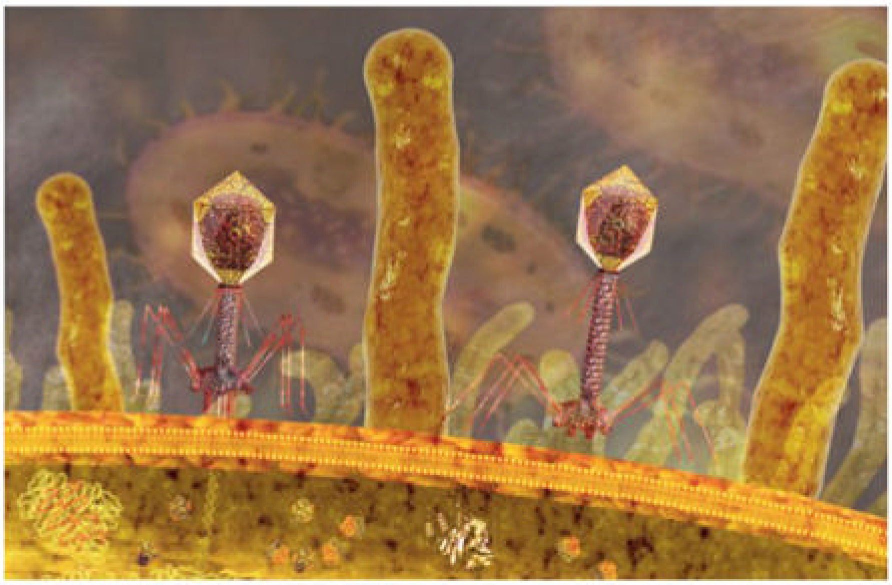
The plan is to come up with one or two super-phages that will hit multiple strains of *Pseudomonas*. In effect, these phages will be giant self-replicating drug molecules that automatically calibrate the size of their dose—for, when all of the target bacteria have been killed, they can no longer breed. The benefit, from the patient's point of view, is help for an infection that is currently untreatable except, perhaps, by getting on a plane to Warsaw or Tbilisi. From the firm's point of view, an equally important benefit is that synthetic viruses can be patented. Wild ones cannot.

Dr Farah's team began work with 300 variegated samples of their target, and 25 strains of an appropriate phage. They sequenced the genomes of all the bugs and all the phages and tested how well each phage did against each bug.

They then searched for correlations between the efficacy of an attack and the genetic sequences of the bacterium and virus involved. These data let them design a new generation of phages and try again—producing ever more efficacious viruses.

Being an effective bacterium-killer is not enough. Now, the team is adding other properties. One is an ability to disrupt biofilms. These are sheet-like colonies formed by *Pseudomonas* (and other bacterial species) over the surface of the tissue they are infecting. Biofilms are defensive structures. By banding together to form them, bacteria make it harder for viruses to attack and harder for drugs to penetrate.

Dr Farah also hopes to add what might be called resistance to resistance, for—just as has happened with antibiotics—natural selection will inevitably shape how the



Set phages to "kill"

target bacteria respond to viral attack. Bacteria have their own immune systems that recognise and destroy viral genes. This leads to an arms race as the viral genes evolve to evade detection. Dr Farah thinks he can give his viruses a head start, slowing down the evolution of resistance.

He hopes, too, to make his phages invisible to the human immune system. Even though phages are harmless to people, the immune system still recognises them as alien and attacks them. Dr Farah plans to slow this attack, giving them a better chance to work.

So far, all this has proved effective in the modern equivalents of Petri dishes. The team has now started tests in animals. If all goes well, they hope to begin human trials in two years' time. If those work, antibiotics may, at last, have a serious rival. ■

Malaria

Plugging away

A mosquito's ability to transmit disease depends on its sexual behaviour

SMACK! You've managed violently to halt a mosquito snacking on your blood. But how likely is it that the departed beastie was the kind that transmits malaria? The latest research shows that the answer has a lot to do with intimate details of the bug's sex life.

There are a few hundred mosquito species in the genus *Anopheles*, but just a few are responsible for a great majority of the 600,000 annual malaria deaths. Most Anophelines are poor hosts for the *Plasmodium* parasites that cause the disease. But the differences between the dangerous mosquitoes and the merely annoying ones have remained unclear. That is changing, as the genetic and sexual particulars of Anophelines are laid bare.

In January a team led by Nora Besansky of the University of Notre Dame in Indiana published the genomes of 16 species, representing the full gamut of "vector capacity"—the ability to carry the malarial parasite. They painted a complex picture, reflecting much interbreeding over hundreds of thousands of years.

It took a bit of computational trickery, thanks to Robert Waterhouse, then of the Massachusetts Institute of Technology, to unpick that history. He helped to identify genes unique to each species and to begin to pick out those relevant to malaria. *Anopheles gambiae*, for instance—the mostly deadly strain—and its close cousins have recently gained 12 unique olfactory receptors. The genes for these may be evidence that *A. gambiae* has, quite literally, developed a taste for humans.

In a paper just published in *Science*, a subset of that same team, led by Flaminia Catteruccia of Harvard University's Chan School of Public Health, reports yet more genetic variations, which they discovered by watching a great deal of mosquito sex.

The team examined nine Anopheline species from around the world—some harmless, and some that readily transmit malaria. The males of some species are known to deposit in the female a squishy "mating plug", made up of their sperm, an enzyme called transglutaminase that makes the plug coagulate, and a hormone called 20-hydroxyecdysone, or 20E.

That hormone sets off a cascade of changes in the female. The most important, from the male's point of view, is that it makes her less likely to mate again. From *Plasmodium*'s perspective, the more relevant effect is that it causes her to make more eggs, thereby diverting resources away from her immune system. That makes life easier for the parasite.

Dr Catteruccia and her colleagues found wide variations among their species in the degree of coagulation of the plug, and the levels of 20E within it. The relatively benign New World species *Anopheles albimanus*, for example, had no mating plug at all, and delivered a barely measurable dose of 20E. The four African and Indian species most known for their vector capacity had far higher levels of 20E and well developed, highly coagulated mating plugs.

The team referred to their book of genomes from January to map the historical development of such traits. For example,

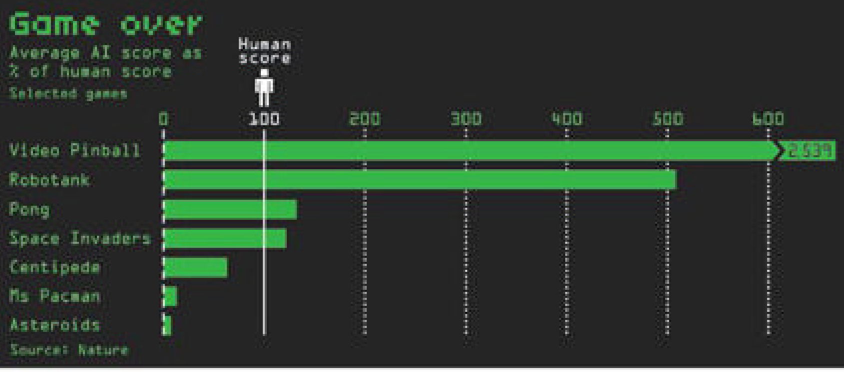
A nice post-coital snack

one copy of the gene for transglutaminase, which helps the mating plug coagulate, has evolved unusually quickly. Females have developed an egg-generating response to 20E in concert with males' growing propensity to deliver it. In short, the sexual strategising of males and females in some species reflects exactly those conditions that are good for *Plasmodium* survival.

The findings are valuable clues in the battle against malaria; hijacking the hormone response, for example, could have maximal effect on only those species that pose the most danger. Intriguingly, two more genera of mosquitoes, *Aedes* and *Culex*, respectively responsible for Dengue fever and the West Nile virus, are also known to make use of seminal secretions that have onward effects on the female. The geneticists and the laboratory voyeurs may be busy for some time. ■

Computers, gaming

How good are computers at learning to play computer games? The chart below shows the performance of a machine using artificial intelligence to play a selection of classic video games, compared with that of a professional human tester. The work—presented in *Nature*—is more than just a bit of fun. It demonstrates the power of modern "machine learning" techniques, which allow machines to figure things out for themselves. The computer was not given any information about the rules of the games. Instead, like a human, it inferred how to play by watching the screen and the score, figuring out concepts like "alien" and "power up" for itself. Such self-teaching algorithms are a hot topic for computing firms, which use them for everything from facial recognition to targeted advertising. Google is particularly keen: it bought Deepmind, the company behind the work, for a rumoured price of $400m last year.



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Sporting mega-events

Just say no

Hosting the Olympics and the World Cup is bad for a city's health

Circus Maximus: The Economic Gamble Behind Hosting the Olympics and the World Cup. By Andrew Zimbalist. *Brookings Institution Press; 174 pages; $25 and £18.50*

THERE may be few sweeter siren songs for public officials across the world than the dulcet tones of emissaries from the International Olympic Committee (IOC) and FIFA, the global governing body of football. To induce cities to bid to host the Olympics and World Cup, they promise infrastructure investment to modernise blighted areas, a lasting rise in tourism, improved public health, a month at the centre of the world stage and the eternal gratitude of constituents. And as for the costs? Well, the economic ripple effects will surely be so large that the spending will pay for itself, and it can always be financed with debt that comes due long after an officeholder has moved on.

Following the extensive media coverage of the economics of the London and Sochi Olympics and Brazil's World Cup, it should be no surprise that these lofty assurances rarely come to fruition. But even appropriately jaded readers are likely to be shocked by the evidence in "Circus Maximus", a brief polemic by Andrew Zimbalist, an American sports economist, which reveals the magnitude of the deception that precedes these events and the disappointment that follows. The book's misleading subtitle calls hosting the competitions an "economic gamble", implying it is a risky bet with a potentially high return. In fact, "Circus Maximus" leaves little doubt that under current conditions, prudent city governments should avoid the contests at all costs.

In principle, there is no reason why hosting such events needs to be an economic own-goal. Between television rights, ticket sales, licensing and sponsorships, the most recent summer Olympics, in London, generated $5.2 billion in revenue. In a city with sufficient existing athletic, hotel and transport infrastructure, it would be easy to stage the competition for less than that figure and come away with a healthy profit—as Los Angeles did in the highly successful 1984 summer games. But over the past few decades, the IOC, in particular, has appropriated an ever-greater share of the proceeds for itself: the most recent public data reveal that it now pockets more than 70% of Olympic television revenue, compared with less than 4% between 1960 and 1980 (see chart). And there is little evidence to support the projections that hosting will bring a surge in tourism: Beijing and London both attracted fewer visitors during their summer Olympics in 2008 and 2012 respectively than they had in the same period a year earlier.

Spoils alert

Distribution of summer Olympics broadcast revenue
$bn at 2012 prices

Sources: "Circus Maximus" by Andrew Zimbalist, IOC; BLS

The international organisations argue, in return, that they also contribute to the costs of staging the contests: in particular, FIFA funds the entire World Cup operating budget. However, "operating" costs account for only a small portion of the price of hosting tournaments. The lion's share is spent on construction, both on stadiums and on transport capacity to shuttle people between events. Those expenditures are borne entirely by the host. Although there is no formal requirement that such venues be new, the IOC and FIFA have consistently selected cities with the most ambitious plans for custom-built facilities. It is the need to build so much, so fast that leads to taxpayer-funded cost overruns that would be comic were they not so tragic, running from a low of four times the original estimate up to ten times or more.

To justify this spending, proponents of hosting often argue that these infrastructure projects will provide continuing benefits long after the events end. Such claims are almost offensively misleading. Mr Zimbalist offers a whirlwind tour of the "white elephants" that litter host cities following the Olympics or World Cup: in Athens a volleyball stadium inhabited by squatters and a softball park overgrown with trees; ▸▸

in Beijing a weed-infested cycling racetrack; in Brazil a football pitch with 40,000 seats now used by a second-division team that draws around 1,500 fans a match. All of these structures cost millions of dollars a year to maintain, making the games' costs their enduring "legacy".

Perhaps the only encouraging finding in Mr Zimbalist's work is that potential hosts are getting wise to the bad deal the IOC and FIFA seek to foist on them. Twelve different cities bid for the 2004 Olympics, whereas the 2020 edition drew just five applicants. After Oslo dropped out last October, only two cities—Beijing and Almaty, Kazakhstan—are now candidates to host the 2022 winter Olympics, providing further support for a prediction in a 2012 report commissioned by the Dutch government that in the future only non-democratic countries will pay up to host the events. If the IOC, which markets the games as a force for peace and harmony, wants to avoid being turned into a propaganda tool for autocratic regimes, it may need to rethink. Thomas Bach, its head, recently established a working group to propose changes to the host-selection process.

Mr Zimbalist offers a number of proposals for reform. The most important would be for the IOC and FIFA to abandon their preference for new construction and give a fair hearing to bids relying on existing facilities. He also suggests limiting the number of cities bidding, adjusting the split of television revenue to favour host cities, making the organisations' voting systems more transparent and imposing term limits on their members. The IOC has clamped down on corruption. Both bodies need to do far more to curb costs and improve transparency and accountability. Nothing less than an Olympian advocacy campaign will be needed to change a system that has served many bigwigs so well. ■

The female body

Shape-shifting

Curvology: The Origins and Power of Female Body Shape. By David Bainbridge. *Granta; 227 pages; £14.99*

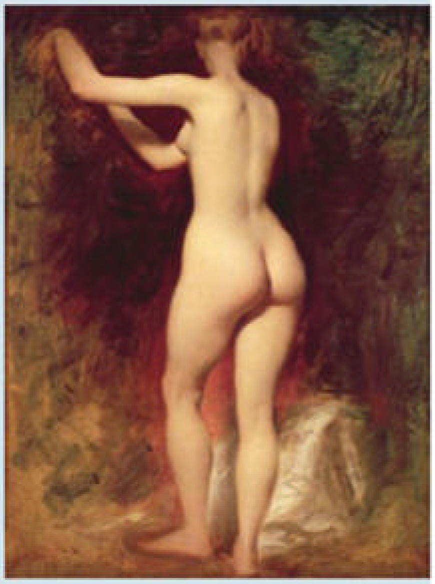
TABLOID newspapers take a prurient interest in women who flaunt their curves. The role of the media, and other cultural forces, in constructing notions of female beauty is often discussed. But "Curvology", a new book by David Bainbridge, focuses on the part played by evolution in men's—and women's—understanding and appreciation of the undulations of the female form. Men's and women's bodies differ more than is necessary simply to gestate, bear and nourish children. Why?

The simple answer, suggests Mr Bainbridge, a British reproductive biologist and veterinary anatomist, is that those curvy bums and boobs, the straight "enviable pins" that newspapers salivate over, ensure the future of humankind. They are proof that a woman was well-nourished while growing up and carries good child-feeding genes. He explains in such terms the changes in women's bodies throughout their lives: it makes evolutionary sense for new couples to plump up—in comparison with when they were single—as this provides both of them with a fatty fallback for when they begin the arduous task of reproducing the species.

For many this book will be uncomfortable reading. Humans are uneasy with the idea that they have overcome so few of their baser urges and that appearance matters so much, argues Mr Bainbridge. But these urges have existed for as long as people have desired each other enough to want to have sex. That long heritage cannot be erased, he writes, "just because it makes us queasy".

The author raises interesting questions about the evolutionary explanations for eating disorders—though his answers are highly speculative. Episodes of bingeing and starvation were normal features of pre-agricultural life; some animals still reduce their intake in winter. Eating disorders, the author writes, could be "evolutionary relics of a time when our food supply was unpredictable".

Some of his other observations will seem facile, especially to female readers—the notion that clothes do more than passively shroud and protect a person's body but become part of their psychology comes as no revelation. But the book's ultimate question, what does it mean to be a woman and to balance the "ancient conflicting demands of food, shape and success in a modern, unnatural world", is one worth asking, even if Mr Bainbridge does not quite answer it.



Evolutionary curve

Fiction

In ancient times

The Buried Giant. By Kazuo Ishiguro. *Knopf; 336 pages; $26.95. Faber and Faber; 344 pages; £20*

A MIST envelops Kazuo Ishiguro's new book—his first novel in a decade—but that is by design. "He had felt as one standing in a boat on a wintry river, looking out into dense fog, knowing it would at any moment part to reveal vivid glimpses of the land ahead." This is Axl, who, at the beginning of "The Buried Giant", sets off with his wife, Beatrice, on a journey to visit the son they haven't seen for a very long time. But when that mist parts, the land ahead looks very strange indeed.

The couple—getting on in years, though Axl always calls his wife "princess"—live in a post-Roman Britain which straddles the border between history and myth. There are ogres here, and dragons; King Arthur is not long gone. Sir Gawain (now no spring chicken) comes into the story about halfway through. One way to describe this tale would be to call it a quest, or rather a sequence of quests: for as Axl and Beatrice seek their son, they are joined by a warrior, Wistan, and a strange wounded boy, Edwin, who are hunting the dragon that seems to be the source of the country's ills.

The mist through which Axl must peer affects everyone, it seems: this land is a place where memories vanish, where nothing is certain, where old companions fail to recognise each other and important conversations fall on deaf ears. Querig the dragon, Axl and Beatrice learn, is the source of the mist that swallows all recollections; kill Querig and memory will return. But as the story progresses, the reader is left to wonder at what price that recollection will come.

So described, this novel seems so simple it might be cleanly slipped into the genre marked "fantasy". But Mr Ishiguro's ▶▶

work is never simple. He has always been a trickster, a shape-changer, courageously exploring the novel's form, and this new book is no exception. His language is plain and clear. But the stories he tells with his clean words are powerful and disturbing.

The erasure of memory in "The Buried Giant" seems curiously selective; the book's ancient society is on the brink of a great transition—the Saxons arriving in greater and greater numbers, the Vikings hovering across the sea—and calls to mind echoes of more modern conflicts, such as Bosnia or, more recently, in Crimea. Yet the author's cordial, storytelling tone, one in which the narrative voice speaks, in once-upon-a-time fashion, from an era distant from the novel's setting, keeps any definite parallel intriguingly elusive.

There are echoes of the young characters in his dystopian, science-fiction novel, "Never Let Me Go", with their limited understanding of their fate; there is a sense, too, of the strange, broken connections of "The Unconsoled", which Mr Ishiguro wrote ten years earlier. His new novel is full of haunting images: the stagnant puddles on the faded tiles of a once-grand, now ruined Roman villa; a wounded bat found in a cave, a hole through its ribs "as though someone had taken a bite from a crisp apple", to the recurring figure of the boatman who bookends this weird, compelling tale. No doubt this book will divide opinion powerfully: but it provokes strong emotions—and lingers long in the mind. ■

Electric cars

Charging ahead

The Great Race: The Global Quest for the Car of the Future. By Levi Tillemann. *Simon & Schuster; 338 pages; $28*

The Powerhouse: Inside the Invention of a Battery to Save the World. By Steve LeVine; *Viking; 308 pages; $28.95*

ANY doubts that electric cars are the future are rapidly blown away within minutes of driving a Tesla Model S. It is not so much the rapid acceleration, but the smooth and relentless supply of power from its electric motor. That is the thing about electric motors: they produce a twisting force called torque instantly. So much torque, in fact, there is no need for a gearbox. This saves weight and makes more room for all the toys, such as the giant touchscreen that dominates the Tesla's centre console. It is a shame then that Levi Tillemann did not crown this car the winner in his book "The Great Race", instead of wimping out at the end by declaring the quest for the car of the future is a "race we all run together".

Mr Tillemann's book is about the car guys, mostly those employed by the giant carmakers in America, China and Japan, and their titanic struggles to bring electric vehicles to the market (and, at one point, in the case of General Motors, trying to kill them). Yet it was Tesla, an upstart from Silicon Valley founded by the PayPal billionaire Elon Musk, that took the laurels by building electric cars that run rings around the others. Teslas use improved versions of industry-standard lithium-ion batteries, rather than any exotic concoctions put together by the battery guys. These players are running in a different but parallel global race described by Steve LeVine in "The Powerhouse" about the visionary attempts to develop a battery that would "save the world". The world is still waiting.

Both books have the crunchy detail required for a compelling insight into the technological, corporate and political machinations that one day will, no doubt, deliver vehicles and batteries that actually do change the world. Not just electric cars, but driverless ones, too. And, again, it was Silicon Valley that put autonomous cars onto the roads with Google's fleet of test vehicles.

Better batteries would give electric and hybrid cars even better performance and increased range, which would improve their appeal. But the batteries also need to be cheaper for the mass market. These batteries would have other uses, such as storing energy on the grid. As the sun does not always shine nor the wind always blow, better batteries could squirrel away surplus energy produced by renewable sources for when demand peaks.

Mr Tillemann, an energy expert, writes about the car guys with the grasp of an insider. This seems to have been gained from founding a company which tried to bring a low-emission car engine to market and by the rigour of having led negotiations with Detroit. Fluent in Chinese and Japanese, he is able to take the adventure to the heart of the world's other automotive powers.

Mr LeVine, Washington correspondent for *Quartz* magazine, gained unusual access to Argonne National Laboratory, a secretive centre outside Chicago which has led America's efforts to produce an advanced lithium-ion battery. His story, though, is also global and traces an international group of scientists along with their squabbles and power-plays.

There are intriguing twists and turns in both stories, and these will continue as both races run on. The latest wrinkle is the fall in oil prices. When lower fuel costs are combined with petrol engines now providing unprecedented levels of efficiency, old technology fights back against electric cars and batteries. How will the car guys and the battery guys respond to this? The crash in oil prices was too late for both authors to explore. It would, anyway, be worth more than another chapter. Perhaps another book. ■

American spying

Many masters, many lives

88 Days to Kandahar: A CIA Diary. By Robert Grenier. *Simon & Schuster; 443 pages; $28*

ROBERT GRENIER joined the CIA in 1979, just as the Shah of Iran fled to America. It was a low point for the agency, but Mr Grenier, imbued with the ethos of the fine East Coast schools he had attended, particularly Dartmouth College from which he had only recently graduated, was eager to serve. In this engrossing, well-written insider's account of his time as the CIA station chief in Pakistan and later as a senior bureaucrat at its Langley headquarters, he was drawn, he says, to a career that offered the possibility of high achievement and, because of the risk, some abject failure. He was more an old-school gentleman spy than a new-era secret warrior.

Most of the book is about Mr Grenier's efforts from inside the American embassy in Islamabad to get Hamid Karzai into the driver's seat in Afghanistan in the immediate aftermath of the attacks on America on September 11th 2001. Mr Grenier writes of the attempts to supply air-support and weapons to the inexperienced Mr Karzai, who had entered Afghanistan from Pakistan in the autumn of 2001 with a motley group of supporters and a satellite phone he barely knew how to use.

The descriptions of this initial phase of the Afghanistan war are both amusing and hair-raising. The late-night videoconferences with the disagreeable Pentagon chiefs who worked to undermine the agency's pro-Karzai strategies illustrate the internecine warfare within the Bush administration (the American military favoured the Northern Alliance). And the mercurial nature of the Pakistani spy agency, the Inter-Services Intelligence, leads one to question again why America relied on this dubious partner. But 14 years later, all this is familiar territory. A notable exception, given Mr Grenier's antipathy towards the Pentagon, is his assertion that even with a vigorous deployment of American troops to Tora Bora in late 2001, Osama bin Laden would not have been captured.

George Tenet, the then CIA director, brought Mr Grenier back to headquarters as head of the Iraq Issues Group, the cell that organised the agency's covert operations for the 2003 invasion of Iraq. From there, he became head of the agency's Counterterrorism Centre (CTC). The director left the agency soon afterwards and Mr Grenier was fired after 14 months—for not being aggressive enough, he says.

The most disappointing part of the book is what it leaves out. Mr Grenier hints, but does not explicitly say, that the agency's censors forbade him from discussing the use of drones. Even after a decent passage of time, he has little to say about what went on at the notorious black sites, the prisons where terror detainees were subjected to "enhanced interrogation", including waterboarding. He says that particular practice had ended by the time he ran the CTC. Without giving details, he offers a full-throttled defence of what happened at prisons in such countries as Poland and Thailand. "When I headed CTC, I did not consider what we were doing to be torture; nor do I think so now," he writes. "As I reflect, putting myself where I was then, knowing what I did about our past success, having the concerns about imminent attack that we all did, and with the legal assurances we had, I still come out in the same place I did then."

Last December, the Senate Select Committee on Intelligence concluded that the agency had used torture in its detention programme, and had gained little usable information from it. President Obama concurred. Now in the consulting business, Mr Grenier, a defender of his institution to the end, is perhaps more of a new-breed warrior spy after all. ■

Mexico's marvellous movies

Beyond borders

MEXICO CITY

A Mexican wave is sweeping through the world of cinema

"FEAR is the condom of life. It doesn't allow you to enjoy things," declared Alejandro González Iñárritu on February 22nd after his absurdly and deliciously fearless "Birdman" won four Oscars, including best picture. It is the second year in a row that Mexican pluck has triumphed. In 2014 Alfonso Cuarón's 3-D space-junk drama "Gravity" won seven Oscars, including the one for best director. Emmanuel Lubezki, both men's wizard behind the camera, has taken best cinematographer for two years running. In America, where most Mexicans are noticed, if at all, sweeping floors and waiting at tables, such a masterful cleanup in Hollywood is a startling result.

The success reflects well on both Mexico and Hollywood. All three friends came of age in Mexico City in the 1980s, when mainstream domestic cinema was financially and creatively bankrupt. They needed to make movies that were profitable, enabling them to break out. They did so, says Adolfo Aguilar, a film critic, at a time when Mexico was opening up to free trade, and global influences were swirling. Two films, Mr González Iñárritu's "Amores Perros" (2000) and Mr Cuarón's "Y tu Mamá También" (2001), established their reputations for telling grippingly commercial stories with the edginess of art-house films. They were hits both at home and abroad.

Once they crossed the border, their film-making has taken different paths, but they have relentlessly pushed the boundaries, Mr Aguilar says, be that into outer space or into the id of a washed-up Hollywood superhero. Tom Shone, a critic for *Intelligent Life*, *The Economist*'s sister publication, likens their success in Hollywood, along with that of Guillermo del Toro, their compatriot, to the French film-makers of the early 1960s. Yet Deborah Shaw, author of "Three Amigos", a book about them, notes that they have not directed any films in their homeland since 2001.

Hold on

Diego Luna, co-star of "Y tu Mamá También" and now a director himself (he made "Cesar Chavez" last year), says this is not because they have turned their backs on Mexico. He argues the film-makers have been able to rewrite the rules in Hollywood at a time when competition from television and the internet has forced American studios to become more creative and culturally eclectic.

Their work has also helped blur the lines between independent and mainstream cinema; the same films that triumphed at the Oscars won the Independent Spirit Awards in Los Angeles the night before. What's more, the Mexicans' storytelling, satirical barbs and stubborn determination are rooted in their home country, Mr Luna reckons. "The marvel of directing films is that you can go as far as you like, but you always end up talking about the place that you come from."

The acclaim is not just in Hollywood. Mexican film-makers, showing even more twisted and brutal realities in art-house cinema, won best director at the Cannes film festival both in 2012 and 2013 with the films "Post Tenebras Lux" (Carlos Reygadas) and "Heli" (Amat Escalante). Recent comedies such as "Instructions not Included" (2013) by a Mexican television star, Eugenio Derbez, have been commercial hits, both at home and in the Hispanic market in America.

There is, says Mr Luna, a "brutal necessity in Mexico to tell our stories and express ourselves". For much of the 20th century, he says that was bottled up because of one-party rule by the Institutional Revolutionary Party (PRI). When Mr Cuarón made "Y tu Mamá También", a road movie involving Mexican teenagers and an older woman, it was meant to convey a view of a country grappling with its own political adolescence. It coincided with the PRI's loss of power.

Now the PRI is back in office and the country is still struggling to find its feet. In his final Oscars acceptance speech, Mr González Iñárritu expressed hope that Mexico would one day "find and build the government that we deserve". He chose not to dwell on it though. Within two days, he was back in Canada directing his next film, "The Revenant", a western starring Leonardo di Caprio. Appropriately, it is a story about a frontiersman. ■

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NUMBER: PRQ20141272

The Burundi Bureau of Standards (BBN) with support from TradeMark East Africa (TMEA) seeks to engage the services of a firm/consortium to provide equipment for laboratories divided in five (5) lots, to be delivered at the Burundi Bureau of Standards laboratories in Bujumbura town centre. The equipment to be supplied will be in five (05) lots, namely:

- **Lot 1: Chemistry and Microbiology Laboratory Equipment**
- **Lot 2: Chemicals for Microbiology and Chemistry Laboratory**
- **Lot 3: Metrology Equipment**
- **Lot 4: Specialised Laboratory Furniture**
- **Lot 5: HPLC Equipment and Accessories**

The tender document and the application form can be obtained at TradeMark East Africa's website http://www.trademarkea.com/get-involved/procurement/. Interested and qualified firms/consortiums must register online on the TradeMark East Africa procurement portal at the website: http://procurement.trademarkea.com. Bids quoting the above Tender **Title** and **Number** should be emailed to procurement@trademarkea.com. All email attachments must be 5MB or less. Any queries must be directed to procurement@trademarkea.com.

Only applications from **firms/consortiums** shall be accepted. The closing date for submission is **30 March 2015**.

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For further information, see **www.edctp.org**.

Please contact EDCTP's search consultant for additional information or to apply:
Craig Smith, PhD, Opus Partners **(craig.smith@opuspartners.net).**

Expressions of interest and formal applications are due by March 31. Female candidates are strongly encouraged to apply.

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Senior Advisor/Deputy Team Leader (T6) for the GIZ Support Project to the Kofi Annan International Peacekeeping Training Centre (KAIPTC) in Accra/Ghana

Contract duration: 04/2015-08/2015 & 09/2015-08/2018

The *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH* is a global service provider for sustainable development. GIZ has been commissioned by the *German Federal Ministry for Economic Cooperation and Development* (BMZ) to support KAIPTC in strengthening its institutional capacities to deliver high quality and on-demand training for civilian experts in the context of the African Peace and Security Architecture (APSA).

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Responsibilities

- **Planning, Managing and Controlling** the German contribution in accordance with the commission, project goals and activities agreed with the partner, team agreements and/or agreements with the superior with special attention to existing GIZ guidelines and cost-effectiveness;
- **Independently managing the assigned thematic component** to achieve its objectives in the context of the overall project objective and in line with the agreed procedures within the cooperation;
- **Providing advisory services and support** to KAIPTC in implementing the assigned thematic areas to achieve the overall objectives of the cooperation;
- **Representing the GIZ Support Project**, specifically vis-à-vis the partner organisation, Development Partners and other implementing organisations (in agreement with the Team Leader, TL);
- **Performing deputy functions** in the absence of the Team Leader of the Project or when delegated to perform these function by the TL.

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- 7-10 years' professional experience, with at least 5 years' professional experience in a comparable position;
- Excellent knowledge of the APSA and political developments in the ECOWAS Region;
- A proven track record in a managerial position and project management experience within an international organisation with cooperation and networking experiences;
- Very good understanding of international marketing (brand marketing) and proven work experience in developing and implementing marketing strategies and portfolio analysis;
- Fluent written and oral knowledge in English is required; good knowledge of the German language would be an advantage;
- Very good working knowledge of MS Office.

Interested applicants should please send their Curriculum Vitae & a cover letter to: hr-ghana@giz.de

The deadline for submission is: 15.03.2015

Kindly note, that only short listed applicants will be contacted. If you do not hear from us two weeks after the given deadline, please consider your application unsuccessful.

Business & Personal

Economic and financial indicators

Economic data

% change on year ago

	Gross domestic product			Industrial production	Consumer prices		Unemployment	Current-account balance		Budget balance	Interest rates, %	Currency units, per $	
	latest	qtr*	2014†	latest	latest	2014†	rate, %	latest 12 months, $bn	% of GDP 2014†	% of GDP 2014†	10-year gov't bonds, latest	Feb 25th	year ago
United States	+2.5 Q4	+2.6	+2.4	+4.8 Jan	+0.8 Dec	+1.5	5.7 Jan	-388.1 Q3	-2.3	-2.8	2.03	-	-
China	+7.3 Q4	+6.1	+7.4	+7.9 Dec	+0.8 Jan	+2.1	4.1 Q4§	+213.8 Q4	+2.2	-2.4	3.25§§	6.26	6.12
Japan	-0.5 Q4	+2.2	+0.3	+0.1 Dec	+2.4 Dec	+2.7	3.4 Dec	+24.3 Dec	+0.4	-8.0	0.37	119	102
Britain	+2.7 Q4	+2.0	+2.7	+0.5 Dec	+0.3 Jan	+1.4	5.7 Nov††	-163.0 Q3	-4.6	-5.4	1.85	0.64	0.60
Canada	+2.6 Q3	+2.8	+2.4	+2.1 Nov	+1.5 Dec	+1.9	6.6 Jan	-41.2 Q3	-2.3	-2.0	1.33	1.24	1.11
Euro area	+0.9 Q4	+1.4	+0.8	-0.2 Dec	-0.6 Jan	+0.4	11.4 Dec	+309.1 Dec	+2.4	-2.5	0.33	0.88	0.73
Austria	-0.1 Q4	+2.6	+0.7	-2.6 Dec	+0.6 Jan	+1.5	4.9 Dec	+2.4 Q3	+2.0	-2.6	0.47	0.88	0.73
Belgium	+0.9 Q4	+0.4	+1.0	-2.4 Dec	-0.6 Jan	+0.5	8.4 Dec	+8.0 Sep	-0.4	-3.1	0.55	0.88	0.73
France	+0.2 Q4	+0.3	+0.4	-0.1 Dec	-0.4 Jan	+0.6	10.3 Dec	-30.5 Dec‡	-1.4	-4.4	0.66	0.88	0.73
Germany	+1.5 Q4	+2.8	+1.4	-0.4 Dec	-0.4 Jan	+0.8	6.5 Jan	+284.5 Dec	+7.1	+0.7	0.33	0.88	0.73
Greece	+1.5 Q4	-0.7	+0.8	-3.9 Dec	-2.8 Jan	-1.3	25.8 Nov	+2.3 Dec	+1.4	-4.2	9.01	0.88	0.73
Italy	-0.3 Q4	-0.1	-0.4	+0.1 Dec	-0.6 Jan	+0.2	12.9 Dec	+38.6 Dec	+1.5	-3.0	1.48	0.88	0.73
Netherlands	+1.0 Q4	+1.8	+0.7	-2.8 Dec	nil Jan	+0.6	8.1 Dec	+91.5 Q3	+9.6	-2.7	0.42	0.88	0.73
Spain	+2.0 Q4	+2.8	+1.3	+2.2 Dec	-1.3 Jan	-0.2	23.7 Dec	-1.5 Nov	+0.2	-5.6	1.44	0.88	0.73
Czech Republic	+2.7 Q3	+0.8	+2.1	+7.3 Dec	+0.1 Jan	+0.4	7.7 Jan§	+0.2 Q3	-0.4	-1.6	0.69	24.1	19.9
Denmark	+1.0 Q3	+1.6	+0.9	+4.7 Dec	-0.1 Jan	+0.5	5.0 Dec	+21.2 Dec	+6.6	+0.2	0.33	6.57	5.43
Hungary	+3.4 Q4	+3.6	+3.0	+4.8 Dec	-1.4 Jan	nil	7.1 Dec§‡‡	+5.7 Q3	+4.3	-2.9	3.07	268	225
Norway	+3.2 Q4	+3.7	+2.3	+3.1 Dec	+2.0 Jan	+2.0	3.7 Dec‡‡	+49.2 Q3	+10.8	+12.0	1.45	7.55	6.04
Poland	+3.4 Q3	+2.4	+3.3	+1.7 Jan	-1.3 Jan	+0.1	12.0 Jan§	-7.1 Dec	-1.3	-3.5	2.20	3.66	3.02
Russia	-0.3 Q4	na	+0.6	+1.0 Jan	+15.0 Jan	+7.8	5.5 Jan§	+56.6 Q4	+2.7	-0.2	12.69	61.4	35.7
Sweden	+2.1 Q3	+1.3	+1.9	-1.6 Dec	-0.2 Jan	-0.2	8.4 Jan§	+36.5 Q3	+5.8	-2.2	0.67	8.30	6.50
Switzerland	+1.9 Q3	+2.6	+1.8	-0.4 Q3	-0.5 Jan	nil	3.1 Jan	+45.7 Q3	+10.6	+0.3	0.05	0.95	0.89
Turkey	+1.7 Q3	na	+3.0	+4.6 Dec	+7.2 Jan	+8.9	10.7 Nov§	-45.8 Dec	-5.6	-1.4	8.05	2.49	2.21
Australia	+2.7 Q3	+1.4	+2.8	+3.8 Q3	+1.7 Q4	+2.5	6.4 Jan	-42.9 Q3	-3.0	-2.6	2.50	1.27	1.11
Hong Kong	+2.2 Q4	+1.5	+2.4	-1.7 Q3	+4.1 Jan	+4.4	3.3 Jan‡‡	+7.1 Q3	+1.9	+0.8	1.56	7.76	7.76
India	+7.5 Q4	+4.0	+6.0	+1.7 Dec	+5.1 Jan	+7.2	8.8 2013	-23.4 Q3	-1.8	-4.2	7.71	61.9	61.9
Indonesia	+5.0 Q4	na	+5.1	+5.2 Dec	+7.0 Jan	+6.4	5.9 Q3§	-26.2 Q4	-3.0	-2.3	6.97	12,874	11,638
Malaysia	+5.8 Q4	na	+6.0	+7.4 Dec	+1.0 Jan	+3.1	3.0 Dec§	+15.2 Q4	+4.2	-3.6	3.87	3.60	3.28
Pakistan	+5.4 2014**	na	+5.4	+2.4 Dec	+3.9 Jan	+7.2	6.2 2013	-3.3 Q4	-2.0	-5.5	9.75†††	102	105
Singapore	+2.1 Q4	+4.9	+2.8	-1.9 Dec	-0.4 Jan	+1.1	1.9 Q4	+58.8 Q4	+21.9	+0.5	2.26	1.35	1.26
South Korea	+2.8 Q4	+1.5	+3.5	+0.4 Dec	+0.8 Jan	+1.3	3.8 Jan§	+89.4 Dec	+5.9	+0.5	2.38	1,101	1,074
Taiwan	+3.3 Q4	+4.8	+3.6	+7.8 Dec	-0.9 Jan	+1.2	3.8 Jan	+65.0 Q3	+11.7	-1.4	1.60	31.4	30.4
Thailand	+2.2 Q4	+7.1	+0.7	-0.4 Dec	-0.4 Jan	+1.9	0.6 Dec§	+14.2 Q4	+2.6	-2.3	2.61	32.5	32.5
Argentina	-0.8 Q3	-2.1	-0.4	-2.4 Dec	— ***	—	6.9 Q4§	-5.0 Q3	-1.1	-2.7	na	8.72	7.87
Brazil	-0.2 Q3	+0.3	+0.1	-2.8 Dec	+7.1 Jan	+6.3	4.3 Dec§	-90.4 Jan	-4.1	-6.1	12.72	2.87	2.34
Chile	+0.8 Q3	+1.5	+1.8	+0.8 Dec	+4.5 Jan	+4.4	6.0 Dec§‡‡	-5.0 Q3	-1.7	-2.2	4.22	617	557
Colombia	+4.2 Q3	+2.6	+4.8	+2.2 Dec	+3.8 Jan	+2.9	8.7 Dec§	-16.2 Q3	-4.4	-1.7	6.50	2,485	2,044
Mexico	+2.6 Q4	+2.7	+2.3	+3.0 Dec	+3.1 Jan	+4.0	4.4 Dec	-26.5 Q4	-1.9	-3.4	5.56	14.9	13.2
Venezuela	-2.3 Q3	+10.0	-3.0	+0.8 Sep	+68.5 Dec	+62.1	5.5 Dec§	+10.3 Q3	+1.2	-13.0	16.93	6.29	6.35
Egypt	+6.8 Q3	na	+2.2	+6.4 Dec	+9.7 Jan	+10.1	12.9 Q4§	-4.4 Q3	-2.0	-12.0	na	7.63	6.96
Israel	+3.6 Q4	+7.2	+2.5	+1.2 Dec	-0.5 Jan	+0.5	5.6 Jan	+11.2 Q3	+3.6	-2.9	1.60	3.95	3.52
Saudi Arabia	+3.6 2014	na	+3.9	na	+2.2 Jan	+2.7	6.0 2014	+120.1 Q3	+12.9	+1.3	na	3.75	3.75
South Africa	+1.3 Q4	+4.1	+1.6	+0.5 Dec	+4.4 Jan	+6.2	24.3 Q4§	-19.7 Q3	-5.4	-4.3	7.61	11.4	10.7

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, Jan 35.9%; year ago 26.04% †††Dollar-denominated bonds.

Markets

	Index Feb 25th	% change on one week	% change on Dec 31st 2013 in local currency	% change on Dec 31st 2013 in $ terms
United States (DJIA)	18,224.6	+1.1	+9.9	+9.9
China (SSEA)	3,383.2	-0.6	+52.8	+47.8
Japan (Nikkei 225)	18,585.2	+2.1	+14.1	+0.9
Britain (FTSE 100)	6,935.4	+0.5	+2.8	-3.9
Canada (S&P TSX)	15,228.6	+0.1	+11.8	-4.5
Euro area (FTSE Euro 100)	1,170.4	+2.1	+14.8	-5.4
Euro area (EURO STOXX 50)	3,541.8	+2.2	+13.9	-6.1
Austria (ATX)	2,485.3	+2.4	-2.4	-19.6
Belgium (Bel 20)	3,672.1	+2.1	+25.6	+3.5
France (CAC 40)	4,882.2	+1.7	+13.6	-6.3
Germany (DAX)*	11,210.3	+2.3	+17.4	-3.3
Greece (Athex Comp)	923.0	+8.9	-20.6	-34.6
Italy (FTSE/MIB)	21,937.2	+1.3	+15.7	-4.7
Netherlands (AEX)	478.5	+2.4	+19.1	-1.8
Spain (Madrid SE)	1,119.8	+2.2	+10.7	-8.8
Czech Republic (PX)	1,028.6	+2.2	+4.0	-14.4
Denmark (OMXCB)	784.5	+4.2	+38.6	+14.1
Hungary (BUX)	18,567.3	+2.7	nil	-19.6
Norway (OSEAX)	664.4	-0.5	+10.2	-11.7
Poland (WIG)	52,871.5	+0.8	+3.1	-15.0
Russia (RTS, $ terms)	883.9	-4.9	+16.1	-38.7
Sweden (OMXS30)	1,678.7	+1.6	+25.9	-2.8
Switzerland (SMI)	8,977.6	+2.0	+9.4	+2.6
Turkey (BIST)	86,733.4	+1.5	+27.9	+10.5
Australia (All Ord.)	5,908.6	+0.5	+10.4	-2.4
Hong Kong (Hang Seng)	24,778.3	-0.2	+6.3	+6.3
India (BSE)	29,008.0	-1.1	+37.0	+36.7
Indonesia (JSX)	5,445.1	+1.0	+27.4	+20.4
Malaysia (KLSE)	1,815.9	+0.4	-2.7	-11.6
Pakistan (KSE)	33,845.3	+0.4	+34.0	+38.4
Singapore (STI)	3,440.8	+0.2	+8.6	+1.3
South Korea (KOSPI)	1,990.5	+1.5	-1.0	-5.0
Taiwan (TWI)	9,699.5	+1.8	+12.6	+6.7
Thailand (SET)	1,589.3	-0.9	+22.4	+23.6
Argentina (MERV)	9,564.3	+0.5	+77.4	+32.6
Brazil (BVSP)	51,811.0	+1.0	+0.6	-17.4
Chile (IGPA)	19,388.0	-0.1	+6.4	-9.8
Colombia (IGBC)	10,449.6	-2.3	-20.1	-38.0
Mexico (IPC)	43,802.1	+1.7	+2.5	-10.0
Venezuela (IBC)	3,578.6	+2.1	+30.8	na
Egypt (Case 30)	9,469.1	-0.7	+39.6	+27.1
Israel (TA-100)	1,335.7	+2.1	+10.6	-2.7
Saudi Arabia (Tadawul)	9,320.3	+0.2	+9.2	+9.2
South Africa (JSE AS)	53,217.8	+1.3	+15.0	+5.4

Government bonds

European government-bond yields in the periphery fell this week, as Greece reached a deal with its international creditors over extending its bail-out. Yields on Greece's ten-year bonds had climbed to their highest since July 2013, when Greece was still spooking markets following its near-exit from the euro in 2012. Unlike then, the latest bout of Greek woes has had rather limited spill-over effects on other periphery countries—perhaps because markets believed Greece would reach a deal in the end, perhaps because of the European Central Bank's promise to do whatever it takes to save the euro. Portuguese bond yields, for example, have fallen from 6.2% at the start of 2014 to less than 2% now.

Source: Thomson Reuters

Other markets

	Index Feb 25th	% change on one week	% change on Dec 31st 2013 in local currency	% change on Dec 31st 2013 in $ terms
United States (S&P 500)	2,113.9	+0.7	+14.4	+14.4
United States (NAScomp)	4,967.1	+1.2	+18.9	+18.9
China (SSEB, $ terms)	292.4	-1.0	+19.2	+15.3
Japan (Topix)	1,507.6	+1.7	+15.8	+2.4
Europe (FTSEurofirst 300)	1,541.8	+1.7	+17.1	-3.5
World, dev'd (MSCI)	1,776.9	+1.0	+7.0	+7.0
Emerging markets (MSCI)	992.8	+0.8	-1.0	-1.0
World, all (MSCI)	433.5	+1.0	+6.1	+6.1
World bonds (Citigroup)	894.6	+0.7	-1.3	-1.3
EMBI+ (JPMorgan)	699.9	+0.3	+7.4	+7.4
Hedge funds (HFRX)	1,235.2§	+0.5	+0.8	+0.8
Volatility, US (VIX)	13.8	+15.5	+13.7	(levels)
CDSs, Eur (iTRAXX)†	51.1	-6.4	-22.2	-35.8
CDSs, N Am (CDX)†	61.8	-3.7	+2.7	+2.7
Carbon trading (EU ETS) €	7.5	-1.5	+43.0	+17.9

Sources: Markit; Thomson Reuters. *Total return index.
†Credit-default-swap spreads, basis points. §Feb 24th.

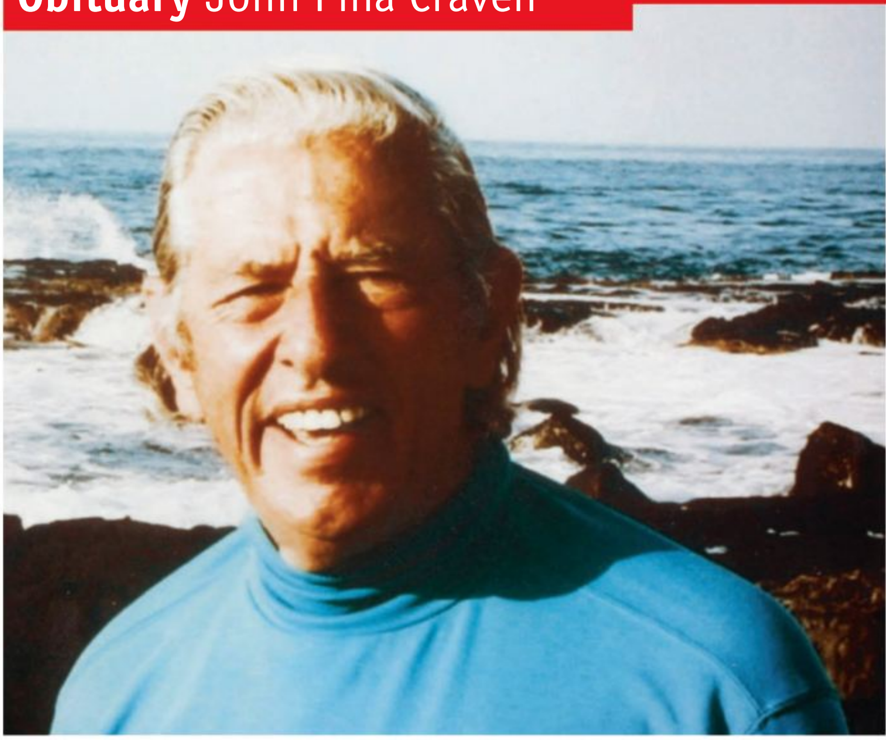
Indicators for more countries and additional series, go to: **Economist.com/indicators**

The Economist commodity-price index

2005=100

	Feb 17th	Feb 24th*	% change on one month	% change on one year
Dollar Index				
All Items	146.5	144.8	-0.1	-15.1
Food	166.8	164.0	-0.5	-16.1
Industrials				
All	125.4	124.8	+0.6	-13.5
Nfa†	122.2	121.0	+1.9	-20.8
Metals	126.7	126.4	nil	-10.1
Sterling Index				
All items	173.7	170.6	-1.6	-8.2
Euro Index				
All items	159.8	158.8	+0.5	+2.9
Gold				
$ per oz	1,207.1	1,198.3	-7.3	-10.6
West Texas Intermediate				
$ per barrel	53.4	48.5	+5.6	-52.5

Sources: Bloomberg; CME Group; Cotlook; Darmenn & Curl; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Thomson Reuters; Urner Barry; WSJ. *Provisional
†Non-food agriculturals.



20,000 feet under the sea

John Piña Craven, mastermind of America's cold-war submarine spying, died on February 12th, aged 90

WHEN he looked in the mirror, having done his 50 morning press-ups, John Piña Craven did not see James Bond. More often he saw an outsider who had scrapped and scraped his way into the navy, rather than gliding into it through Annapolis as the Cravens had always done. He liked to see glints of his mother's Moorish-pirate ancestry, that hint of "black blood" that had bothered his Presbyterian father. The only time he approached Bond was during poker games, when he might smoke a cigar, and where few could beat him for calculated reading of an opponent.

To outside observers, however, his world came straight from Ian Fleming. Dr Craven's job for many years was to spy on the Soviets using submarines. His mission, initially as chief scientist at the navy's Special Projects Office, was to devise ways of finding on the deep ocean bed anything the enemy might have dropped or mislaid, including atom bombs. Equally he had to find ways of salvaging, before the Soviets did, anything America had lost there—such as, in 1968, the submarine *Scorpion*, and in 1966 a hydrogen bomb knocked out of a B52 during mid-air refuelling.

The depths of the sea were the last frontier of the cold war. It was not until 1960 that a Polaris missile was successfully test-fired from a submerged submarine, and not until 1965 that Dr Craven converted a nuclear submarine, the *Halibut*, into a secret spy ship full of cables, strobe lights, giant crab-claws and remote-controlled cameras. He was no submariner himself, having done his wartime service on the battleship USS *New Mexico*, and no sailor subsequently, just a civilian engineer and naval civil servant devoted to the sea. But the *Halibut* was a triumph. Thanks to Dr Craven's improved thrust/vector control, it could hover invisibly and silently for hours over any tantalising object.

Fixing where to look was his special skill. As a mathematician he used Bayesian search theory, crunching multiple probabilities to produce contour maps and then to pinpoint a site to within a few hundred yards. Thanks to that, too, *Halibut* not only detected sunken craft and weapons but, in 1971, tapped into a submarine telecoms cable in Russia's Sea of Okhotsk, opening up a universe of intelligence.

Dr Craven was also asked to push men further. Hence his work on the *Trieste* series of bathyscaphes, built to withstand the pressure 20,000 feet down, and the SeaLab project, training unprotected divers to descend to the ocean floor itself. In effect he, a non-diver influenced mostly by Jules Verne, was charged with turning human beings into "marine mammals". SeaLab failed, and was abandoned. But he often reflected that what he was attempting, in the inky depths, was every bit as hazardous as trying to land men on the Moon.

Swallowing submarines whole

The best story of all concerned what the Soviets mislaid. In 1968 a submarine, *K129*, disappeared in the Pacific. Dr Craven was ordered to find it, mostly because it might be rogue and about to attack the United States. *Halibut* detected it, three miles down and wrecked by an explosion, and took 22,000 photos; the CIA then went wild, and in 1974 sent a specially built ship, the *Glomar Explorer*, to try to raise the submarine. On the pretext of mining manganese nodules, a giant claw would scrape it up; then the underbelly of the ship would open, swallowing the submarine whole.

The mission mostly failed, but the saga became a book and a film. Dr Craven was fingered as privy to the whole business. He knew something; but what bothered him most was that the cover story was untrue. Manganese could not feasibly be mined from the ocean floor. Moreover that lie, which he could not expose, had inspired other countries to waste money trying. He felt much less like Bond than Coleridge's Ancient Mariner, with the albatross of state secrecy hung about his neck.

In many ways, the silent service—as submarines were called, even before they spied—was not ideal for him. He was noisy by nature, singing everything from Mozart to Pete Seeger, playing the piano, telling jokes. His mind was restless, curious and omnivorous. Tiptoeing through the shoals of naval etiquette, when much of his work did not officially exist, came hard to him. Eventually there were interviews, and a book, "The Silent War", in which he trod very carefully, while bursting to tell all.

Nor was he done with the deep ocean. As a good liberal, he fell out of sympathy with cold-war bluster after a time, and turned to thinking how the ocean depths might usefully be shared. In 1970 his secret work had taken him to Hawaii. There in 1974 he set up a laboratory to use the temperature difference between deep cold water, and warm surface water, to produce electricity. He also began a project to grow crops cheaply by using condensation from cold deep-ocean water pumped through pipes to the shore. With good results on both counts, he began to think the ocean might be used to power whole cities, starting in the Marianas. Old age slowed him, but he kept that at bay by swimming, snorkelling and applying cold-as-the-ocean water-packs as he slept. When he looked in the mirror, he was still not 007. But he was not far from those marine mammals he had once tried to create, who might pluck from the bottom of the ocean things that were well worth knowing. ■

The Economist Events

The rise of the patient
Re-imagining the health-care ecosystem

The revolution in information technology and connectivity, coupled with structural reforms fuelled by the Affordable Care Act, has empowered patients to be knowledgeable consumers and active decision-makers when it comes to their health. Despite these unprecedented advances, much of the health-care ecosystem remains disjointed and cumbersome for patients to navigate. There are many opportunities to connect processes across businesses, innovate and reduce costs. As part of *The Economist*'s second annual Health Care Forum on September 17th 2014, Eli Lilly and Company sponsored a session on the future of patient-centred care and the steps industry players must take to deliver on the promise of patient-centred care.

"We see a lot of reforms. We see a push everywhere towards integrated and quality care," said Vivek Muthu, director of health care for The Economist Intelligence Unit. **"And yet the felt experience of patients is often one of difficulty in navigation, fragmentation—quite glaring gaps in the patient experience of care."**

"When you really get deep in and understand what's going on for the patient and his or her caregiver, you understand that at the time of discharge they have just had a life changing event," said Alex Azar, president of Lilly USA. **"Are there interventions that we could put to work at those core moments of truth that will help keep the patient on the journey towards wellness?"**

"Patients have always been the passive recipients of care. They have been the passive recipients of innovation," said Anne Klibanski, chief academic officer of Partners HealthCare. **"This is a new change for us—actually engaging patients in understanding what our research endpoints are and engaging them in the economics of the entire model."**

"We live in a technology age. We live in an information age. But the one age that is truly going to make a profound difference is this age of consumerism," said Sam Nussbaum, chief medical officer of Anthem. **"We have to be innovative, take waste out, leave headroom for innovation and we have to develop a shared accountability for health."**

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