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Politics



Pope Francis began a visit to America that has sparked contentious domestic debates about climate change, poverty, immigration and gay marriage, as well as the role of the Catholic church. Barack Obama rolled out the red carpet for the pontiff in a lavish welcoming ceremony at the White House. Before heading to Washington the pope spent four days in Cuba where he met Fidel Castro and his brother Raúl, the president, but avoided criticising the country's human-rights record.

Scott Walker dropped out of the **Republican race** for the party's presidential nomination. The governor of Wisconsin had been considered a top-tier candidate earlier this year. But that was before the entry of Donald Trump—who has picked up the populist challenge to the party establishment—and poor performances in the debates.

The Obama administration nominated Eric Fanning as **secretary of the army**. He will be the first gay person to hold the most senior civilian job among the branches of America's armed forces.

Welcome, Mr President

President Xi Jinping was also due to be feted at the White House on his first state visit to Washington since he became China's leader nearly three years ago. Mr Xi began his trip in Seattle, where he told business leaders that China would not devalue its currency to boost exports. He also denied that China engaged in hacking and said it would co-operate with America on the issue.

America repatriated one of **China's** most wanted criminal suspects, Yang Jinjun. State media say Mr Yang is suspected of bribery and embezzlement. He is among 100 people named by China in April as fugitives who had allegedly engaged in corruption.

India has decided to buy 37 military helicopters worth \$2.5 billion from Boeing. Its air force had chosen the Apache and Chinook helicopters three years ago, but concerns about the cost had delayed the deal.

Malaysia's opposition parties formed a new alliance. An Islamist party which had been included in an earlier grouping is no longer a member. The opposition hopes to increase pressure on the prime minister, Najib Razak, to step down following allegations of corruption against him. He denies any wrongdoing.

An all-too-common tragedy



Hundreds of people taking part in the **haj pilgrimage** were killed in a stampede near Mecca and hundreds more were injured. Saudi Arabia had gone to great lengths this year to improve safety at the annual event, which has a long record of fatal disasters.

Marking the start of the haj, President Abdel-Fattah al-Sisi of **Egypt** pardoned 100 people, among them three journalists from Al Jazeera television (two of them foreign) who had been sentenced to prison.

Russia reinforced its presence in **Syria**, dispatching two dozen war planes to an air base south of Latakia, the country's biggest port, in an

attempt to bolster the regime of Bashar al-Assad and, perhaps, help force progress towards a resolution of the four-and-a-half-year war.

Yemen's internationally recognised president, Abd Rabbo Mansour Hadi, returned to Aden, six months after he was forced to flee from the southern port to Saudi Arabia as Houthi fighters closed in on him. A Saudi-led coalition has been bombing Houthi-controlled areas since March, with increasingly lethal attacks on the capital, Sana'a.

The Republic of **Congo's** president, Denis Sassou Nguesso, announced a referendum on constitutional changes that would allow him to run for a third term. In **Burkina Faso**, meanwhile, the interim president appointed after the country's strongman was driven out (and who had tried to win an additional term without such a referendum) himself briefly fell victim to a coup.

The **first light-rail system** in sub-Saharan Africa opened in Addis Ababa, the capital of Ethiopia (some South African cities have commuter rail services). China provided the financing and expertise to construct the system.

Peace in our time?

Colombia's president, Juan Manuel Santos, and Timoleón Jiménez, the head of the FARC guerrillas, announced in Havana that they have reached an outline agreement on how to punish rebel commanders and others for human-rights abuses. After half a century of violence the agreement removes the obstacle to a peace accord, which the two men said they hope to sign by March 23rd next year.

The Brazilian real slumped to a record intraday low against the dollar amid continuing negative market sentiment about the prospects for **Brazil's** economy. In an effort to shore up the currency, the central bank announced auctions of currency-swap contracts that

allow for hedging against any further weakening.

It's something at least

The European Union approved a scheme to distribute 120,000 additional **asylum-seekers** among member states, on top of 32,000 already agreed to in July. The scheme will be binding on the countries that voted against it: the Czech Republic, Hungary, Romania and Slovakia. A summit of EU leaders promised €1 billion (\$1.1 billion) in aid for Syrian refugees still in Jordan, Lebanon and Turkey.



The **Greek** prime minister, Alexis Tsipras, appointed a relatively moderate cabinet for his second term in office, after confounding the pundits and winning the election by a surprisingly decisive margin. The new ministers will need to help Mr Tsipras and his left-wing Syriza party carry out the tough austerity policies demanded by Greece's creditors.

The two ministers of the pro-Kurdish HDP party serving in **Turkey's** caretaker government resigned, saying they could no longer work with the governing AK party while it ramped up the country's war on the banned militant Kurdish group, the PKK. One HDP minister accused the government of creating a "coup-like" atmosphere.

The remains of Tsar Nicolas II and his wife Alexandra were exhumed in **Russia** for DNA tests. The Orthodox church wants to confirm the identity of two members of the Romanov family, executed by the Bolsheviks in 1918, before they are reburied with the rest of the family in St Petersburg's Cathedral of Sts Peter and Paul. ►

Business



Volkswagen was thrown into crisis after admitting that it had cheated emissions tests in America on some of its diesel cars by installing software that can detect the test. The Environmental Protection Agency told the German carmaker to recall 500,000 vehicles in America, but 1m could be affected worldwide. As well as a federal investigation and various state lawsuits in the United States, it faces scrutiny by the French, German and other governments and in theory faces fines of up to \$18 billion from the EPA alone. With share prices falling across the car industry and the very future of diesel cars called into question, Martin Winterkorn resigned as vw's boss.

Adding to Volkswagen's woes, 12 people who worked for it in **Brazil** when the country was ruled by a military dictatorship filed a civil lawsuit claiming the company had allowed security forces to torture and illegally detain them at one of its factories.

Staying low

Several officials at the Federal Reserve said that the decision on September 17th not to raise **interest rates** had been a close call. Against a backdrop of turbulent markets the Fed voted 9-1 to keep rates on hold, for now. Meanwhile, Andrew Haldane, the chief economist at the Bank of England, suggested that the bank could reduce its benchmark rate to below 0.5%, where it has been since 2009.

The Fed's decision unnerved stockmarkets already concerned about the extent of the

slowdown in China and other emerging markets. With commodity prices falling, the shares of big mining and commodity-trading companies fared particularly badly. **Glencore**'s share price briefly dipped to a new low of £1 (\$1.53), just a week after it raised capital by issuing shares priced at £1.25.

Meanwhile, the Asian Development Bank reduced its growth forecast for **China** to 6.8% this year. The government's target is 7%. A monthly survey found that China's manufacturing industry shrank at its fastest pace in more than six years, the seventh consecutive month of decline.

As one

The board at **Bank of America** won a big victory when shareholders approved its decision to combine the roles of chief executive and chairman, positions that are held by Brian Moynihan. A revolt led by activist investors and pension funds had threatened to separate the jobs. The vote of confidence in Mr Moynihan comes as the bank faces fresh challenges, such as resubmitting its "stress test" to the Federal Reserve because of flaws in both its capital plan-

ning and how it forecasts future losses and revenue.

Lloyd Blankfein, the chief executive of Goldman Sachs, revealed that he has cancer and is to undergo chemotherapy. Mr Blankfein has led the bank since 2006, steering it through the financial crisis and the subsequent regulatory fallout. But he says that "my own expectation is that I will be cured" and he plans to continue working as normal.

Portugal revised its budget deficit for 2014 up to 7.2% of GDP from 4.5% after adding the cost of its bail-out of Banco Espírito Santo to the national accounts. It had hoped it could avoid including the cost, but the collapse of the sale of BES's surviving "good bank" forced it to adjust the public books. The country remains on course for a deficit of 2.7% this year.

A row broke out about the **cost of drugs** when Turing Pharmaceuticals raised the price of Daraprim, which treats a parasitic infection, from \$13.50 to \$750 a pill. Founded and led by a former hedge-fund manager, Turing recently bought the rights to Daraprim, which has been in use for 62 years. Responding to the 5,000% price increase, Hillary Clinton, the

leading Democratic candidate for president, indicated that she would end "price gouging" and cap prescription bills for very ill people. As biotech shares swooned, Turing back-pedalled and said it would set Daraprim at a more, though unspecified, "affordable" price.

Groupon, an e-commerce company that offers discount prices, announced a restructuring that will result in 1,100 job losses worldwide, about a tenth of its workforce. Groupon's share price has sunk by nearly 90% since its IPO in 2011, which at the time was the biggest stockmarket flotation by an American tech company since Google's in 2004.

Tweet this

Instagram said that 400m people now actively use it each month. The photo-messaging site has added 100m users in the past nine months alone. Owned by Facebook (which clocked up one billion visits to its own site on a single day for the first time in August), Instagram is expected to reap \$600m this year in advertising revenue and \$1.5 billion next, according to eMarketer, which tracks these things.

Other economic data and news can be found on pages 92-93



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Dirty secrets

Volkswagen's falsification of pollution tests opens the door to a very different car industry



no minor misdemeanour or victimless crime (see pages 23–25). The German carmaker has admitted that it installed software on 11m of its diesel cars worldwide, which allowed them to pass America's stringent NO_x-emissions tests. But once the cars were out of the laboratory the software deactivated their emission controls, and they began to spew out fumes at up to 40 times the permitted level. The damage to vw itself is immense. But the events of this week will affect other carmakers, other countries and the future of diesel itself.

Winterkorn is going

vw first. Its chief executive, Martin Winterkorn, has resigned, and the company is setting aside €6.5 billion (\$7.3 billion) to cover the coming financial hit. But investors fear worse: in the first four trading days since the scandal broke on September 18th, vw's shares fell by one-third, cutting its value by €26 billion. Once all the fines, compensation claims, lawsuits and recall costs have been added up, this debacle could be to the German carmaking giant what Deepwater Horizon was to BP. At least BP's oil-drilling disaster was an accident; this was deliberate. America's Department of Justice is quite right to open a criminal investigation into the company. Other countries should follow South Korea and probe what vw has been up to on their patch. Though few Chinese motorists buy diesel cars, the scandal may prompt its government to tackle the firm for overstating fuel-economy figures for petrol engines.

Whether or not Mr Winterkorn bore any personal responsibility for the scandal, it was appropriate that he should lose his job over it. He is an engineer who is famous for his attention to detail; if he didn't know about the deceptive software, he should have. Selling large numbers of "Clean Diesels" was central to vw's scheme for cracking the American market, a weak spot, which in turn was a vital part of the plan to overtake Toyota of Japan as the world's largest carmaker. The grand strategy that Mr Winterkorn had overseen now lies in ruins.

A change at the top, and a hefty fine, must not be the end of the matter. America's prosecutors ought to honour their promise to go after the individuals responsible for corporate crimes, instead of just punishing companies' shareholders by levying big fines. Most of the recent banking scandals have ended not in the courtroom, but in opaque settlements and large fines. Earlier this month the Department of Justice announced a \$900m settlement with GM, America's largest carmaker, for failing to recall cars with an ignition-switch defect blamed for crashes which killed at least 124 people and injured 275. Prosecutors said (unnamed) managers at GM had knowingly ignored the potentially deadly effects of the fault, and put profit before safety. Yet they announced no charges.

EMISSIONS of nitrogen oxides (NO_x) and other nasties from cars' and lorries' exhausts cause large numbers of early deaths—perhaps 58,000 a year in America alone, one study suggests. So the scandal that has engulfed Volkswagen (vw) this week is

That has to change—and the authorities know it. In a speech this month, America's deputy attorney-general, Sally Yates, said that from now on, fining businesses would take second place to pursuing criminal and civil charges against individuals. An accused firm will no longer get credit for co-operating with investigations (as vw says it will) unless it gives the feds the names of every manager or employee involved in wrongdoing, and seeks to gather and submit evidence of their personal responsibility. vw is a test of this new approach. But to avoid suspicions of being tougher on foreign firms—as were raised in the BP Deepwater case and in recent banking settlements—the American authorities should also prosecute culpable GM managers.

Yet the biggest effects of the scandal will be felt across the Atlantic. vw's skulduggery raises the question of whether other carmakers have been up to similar tricks, either to meet Europe's laxer standards on NO_x emissions or its comparable ones on fuel economy—and hence on emissions of carbon dioxide. BMW and Mercedes, vw's two main German peers, rushed to insist that they had not. However, in Europe, emissions-testing is a farce. The carmakers commission their own tests, and regulators let them indulge in all sorts of shenanigans, such as removing wing mirrors during testing, and taping up the cracks around doors and windows, to reduce drag and thus make the cars burn less fuel. Regulators also tolerate software a bit like vw's, that spots when a car is being tested and switches the engine into "economy" mode. This is why the fuel efficiency European motorists achieve on the road is around 40% short of carmakers' promises.

At least America's regulators, unlike Europe's, sometimes stage their own tests to verify the manufacturers' findings. But it is time this whole system was swept away and replaced, everywhere, with fully independent testing of cars in realistic driving conditions. Now, with outrage at vw's behaviour at its height, is the moment to act. That would mean overcoming the objections of carmakers. But it also requires European regulators to change their attitudes to diesel, which accounts for half of cars sold on the continent. Diesel vehicles can be very economical on fuel (and thus emit relatively little carbon dioxide) but often at the cost of increased NO_x emissions. That trade-off has been decided in diesel's favour by Europe's lousy testing regime and more lenient NO_x-emissions standards.

See no diesel

Even if other makers of diesel vehicles have not resorted to the same level of deception as vw, the scandal could mean that these cars struggle to meet standards applied rigorously to both types of emission. Some fear that this may be the "death of diesel". So be it. There is still scope to improve the venerable petrol engine; and to switch to cleaner cars that run on methane, hydrogen and electricity, or are hybrids. A multi-billion-dollar race is already under way between these various technologies, with makers often betting on several of them as the way to meet emissions targets. If vw's behaviour hastens diesel's death, it may lead at last, after so many false starts, to the beginning of the electric-car age. ■

Progress in Ukraine

Look west, Maidan

The revolution in Ukraine is being smothered by corruption and special interests



YOU would be forgiven for thinking that the crisis in Ukraine is past its worst. Although the Minsk agreements are honoured in the breach and artillery fire still echoes across the Donbass, there has been little real combat for months. The separatists have given up extending their territory, Russia has given up sending them heavy reinforcements, and Ukraine has given up trying to defeat them. A chance to resolve lingering disagreements will come on October 2nd when the leaders of Ukraine, Russia, France and Germany meet in Paris.

Although Western powers are surely tempted to turn their attention elsewhere, that would be a mistake. The shooting war was never the only conflict in Ukraine—nor even the most vital one. The Maidan revolution was an attempt to replace a corrupt post-Soviet government with a modern European-style one based on the rule of law. Ordinary people challenged Vladimir Putin's vision of a distinct "Russian World" unsuited to liberal democracy. What is at stake in Ukraine is thus the future of the entire post-Soviet region.

Get clean, Ukraine

As yet, Mr Putin does not have much to worry about. Ukraine's reformers have tried, but their war on corruption is not going well (see page 50). The Ukrainian state, like the Russian one, still resembles a giant mafia. It administers the country (reluctantly), but its main purpose is to generate graft and it governs largely by dishing out the proceeds. Oligarchs and their political cronies still dominate Ukrainian life. Should the government do too much to fight corruption, the oligarchs may use their private armies to stage a coup. Should the government do too little, angry Maidan veterans might stage one themselves.

That could leave Europe with a failed state on its borders contested by rival militias—a European Syria.

What Ukraine requires is more direct help from outside. The government has already brought in technocrats from across central and eastern Europe, and members of the Ukrainian diaspora. The West should urgently send more. The notion that foreigners can solve a country's corruption problems sounds dubious, but it has worked elsewhere—in Guatemala, for instance, a UN-sponsored agency staffed by expatriate lawyers has brought justice, even indicting the country's former president. Ukrainian civil-society groups are begging for outside help. Western donors now propose to top up the salaries of Ukrainian officials in an attempt to curb the temptation to take bribes. Some officials will take both the top-up and the graft. Better still to send in outsiders.

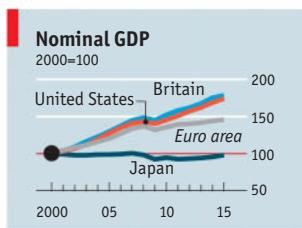
Information is needed, too. Mr Putin's vision reaches Ukrainians through Russia's slick television channels. Ukraine's stations, mostly owned by oligarchs, are dreary by comparison. The budgets of Radio Free Europe/Radio Liberty and the BBC World Service have been cut since the cold war; their Ukrainian- and Russian-language services now need beefing up.

Ukraine's other needs, such as infrastructure, are more expensive—though less so than coping with the cost of a failed state. But liberal democracies have a stake in Ukraine's success. To bring down their president in the winter of 2013, roughly 100,000 Ukrainians braved gas canisters and bullets not because they wanted war with Russia, but because they wanted to live in a "normal" country. The Maidan demonstrators wanted a reasonably non-corrupt, reasonably effective, liberal democratic system like the ones they saw in Europe. So far they have not got what they sought. If liberal democracies cannot help such people realise their dream, then they should not be surprised when the discontented masses conclude that liberal democracy has nothing to offer them. ■

Central banking

After the hold, be bold

It will take more than patience to free rich economies from the zero-interest-rate world



SOMETIMES doing nothing really is better than doing something. On September 17th the Federal Reserve made the right decision to leave its benchmark interest rate, unchanged since 2008, near zero. With inflation sitting well below the Fed's 2% target and doubts about China's economy prevalent (see page 71), a rise would have been an unnecessary risk.

Yet Janet Yellen, chair of the Fed, will face a similarly tough choice in October—and possibly for many months thereafter. And whenever "lift-off" occurs, financial markets expect rates

to stay historically low for years to come. The era of unconventional monetary conditions shows no sign of ending. If the rich world's central banks are to get back to the normality they crave, their standard toolkit may not suffice. It is time to think more boldly, especially about the idea of inflation targeting.

That is because the usual relationship between inflation and unemployment appears to have broken down. In the short run, economists think these two variables ought to move in opposite directions. High joblessness should weigh on prices; low unemployment ought to push inflation up, by raising wages.

Unfortunately, in many rich countries this standard inflation thermostat is on the blink. In 2008 economic growth col-

►

► lapsed and unemployment soared, but inflation only gradually sank below target. Now, by contrast, unemployment has fallen to remarkably low levels, but inflation remains anaemic. This has wrong-footed central banks. Assuming that rising prices would follow hard on the heels of a jobs boom, both the Fed and the Bank of England ended stimulative bond-buying programmes and prepped markets for looming rate rises. Their recoveries have instead proved nearly inflation-free. Worse, with interest rates close to 0%, central bankers have less room to respond if they misread inflation risks and tighten too soon. Given this double bind, it makes sense to look beyond inflation—and to consider targeting nominal GDP (NGDP) instead.

Nominal but substantive

A target for nominal GDP (or the sum of all money earned in an economy each year, before accounting for inflation) is less radical than it sounds. It was a plausible alternative when inflation targets became common in the 1990s. A target for NGDP growth (ie, growth in cash income) copes better with cheap imports, which boost growth, but depress prices, pulling today's central banks in two directions at once. Nominal income is also more important to debtors' economic health than either inflation or growth, because debts are fixed in cash terms. Critics fret that NGDP is hard to measure, subject to revision, and mind-bogglingly unfamiliar to the public. Yet if NGDP sounds off-putting, growth in income does not. And although inflation can be measured easily enough, central banks now rely nearly as much on estimates of labour-market "slack", an impossibly hazy number. Most important, an NGDP target would free cen-

tral banks from the confusion caused by the broken inflation gauge. To set policy today central banks must work out how they think inflation will respond to falling unemployment, and markets must guess at their thinking. An NGDP target would not require the distinction between forecasts for growth (and hence employment) and forecasts for inflation.

What might an NGDP target mean in practice? Most economies have fallen well short of their pre-recession trend in nominal-income growth. Before the financial crisis, nominal GDP growth of 5% was considered normal in America. Yet the economy is 16% below the income threshold it would have reached had it grown at that pace since 2006. In Britain, too, NGDP is 15% short of where it could have been. The euro zone and Japan are even worse. Such shortfalls are too great to make up quickly; doing so would imply dangerously high inflation rates. Yet even relative to recent trends, rich economies are coming up short; American NGDP is 5% below what you might have anticipated in 2010. Faster NGDP growth could come from better productivity, more hiring or faster inflation; all of which rich economies could use a bit more of.

Setting a different target does not mean central banks will automatically reach it. And their unconventional toolkit looks depleted. Quantitative easing, which is still in use in Europe and Japan, is falling out of favour because of worries about asset prices (see page 74). Interest rates cannot be cut far below zero without radical changes in the nature of money (the Bank of England's chief economist recently suggested eliminating cash). But getting the target right is an important start. Patiently waiting for inflation to turn up is no longer good enough. ■

The war in Syria

The cost of inaction

America's failure to intervene earlier leaves no good options for helping Syria. But doing nothing is even worse



TO WITNESS the mass of humanity flowing from the Middle East into Europe leads to only one conclusion: no matter what Europe does on its borders, the crisis will not end until the Syrian civil war stops. This newspaper has long held the view that peace is impossible as long as Bashar al-Assad remains in power. That is as true today as when he first started killing unarmed pro-democracy protesters in 2011.

So the West should not fall for the dangerously seductive idea, put forward by Russia, that it should embrace Mr Assad the better to fight the jihadists of Islamic State (is). This would be not just morally wrong but also a strategic blunder. Most civilians are being killed by Mr Assad's forces, and most refugees are fleeing his bombs. In any case Mr Assad's depleted army has been losing ground, which is one reason why Russia has had to deploy fighter jets, bombers and armoured vehicles to Syria in recent weeks (see pages 45-46).

Backing Mr Assad, or acquiescing in the survival of his regime, would only push more Sunnis into the arms of the jihadists. If is is the ugliest face of Sunni Arabs' sense of disenfranchisement, Mr Assad is the worst embodiment of their nightmare. A diplomatic deal under which Mr Assad would

surrender power to some kind of federal, broad-based government, now or at some point in the future, might be the best transition. Russia's intervention may yet help bring about that outcome. More probably, it will embolden Mr Assad to cling to power; and keep fighting a war he cannot win but that will do more damage to the country, and the region.

Even at this late stage, the best way to secure a diplomatic deal is to exert stronger pressure on Mr Assad by changing the balance of forces and protecting the population. The West and its allies should thus create protected havens; impose no-fly zones to stop Mr Assad's barrel-bombs; and promote a moderate Sunni force to expand the middle ground between the mass-murdering Alawite regime and the gore-loving jihadists.

Good at breaking, bad at fixing

Barack Obama has reason to worry about the cost of toppling Mr Assad. The West has been wretched at fostering decent, stable governments to replace Arab dictators it has overthrown, whether by invasion in Iraq in 2003 or by air bombardment and popular rebellions in Libya in 2011. Yet non-intervention in Syria has also had dire results: some 250,000 killed; about half the population displaced or pushed out; and a refugee crisis in Europe. is has established a "caliphate" in Iraq and Syria; its survival amounts to victory, which draws recruits and spreads its creed to Libya, Egypt and elsewhere. ►

► Mr Obama seeks to “degrade and ultimately destroy” IS, but his military campaign has been half-hearted and is fatally flawed by the lack of a plan for Syria. He said he would train and equip a moderate Sunni force in Syria—to fight only IS, not Mr Assad. That notion was doomed from the start. It attracted only a pitiful number of recruits, and the first batch sent into Syria was all but annihilated. Now the White House says, in effect, that arming Syrian rebels was an idea foisted on Mr Obama, who never believed in it. Rarely has an American president so abjectly abandoned his global responsibility.

Mr Obama’s wariness has made the options in Syria much harder. But not impossible. The mainstream Syrian rebels, mocked by Mr Obama as made up of “doctors, farmers [and] pharmacists”, have been superseded by multiple Islamist groups. Even so, it is still possible to work with some of the less hideous, non-jihadist militias. Groups supported by Turkey and Arab states have gained ground. With commitment and resources, America could ensure its allies backed the more acceptable forces; and fighters would be drawn to any group that demonstrated battlefield success. If America put a stop to the barrel bombs, its standing among Syrians would immediately improve. Dependence on outside support would also increase

the prospect of the West exerting some influence over rebel behaviour, and avoid the dark possibility of Sunni atrocities against defeated Alawites, Christians and other minorities.

Now that the doctors and pharmacists are fleeing to Europe, Syria will be harder to rebuild. But a haven would give Syrians an alternative to exile, and create the chance for moderate forces to offer services and build legitimacy. A no-fly zone carries the risk of clashing with Russian jets. But Mr Putin does not want a direct fight with rebels, or with America. The model should be Bosnia in the 1990s—applying pressure on Russia’s client to get a peace settlement—not the Soviet Union’s rout in Afghanistan in the 1980s. If Russia wants to keep its naval base in Syria, protect orthodox Christians and limit IS in the Caucasus, it should dump Mr Assad.

The cost of the Obama doctrine

Perhaps the biggest obstacle is Mr Obama himself. Right now his legacy will record not just sensible rapprochement with Iran and Cuba, but also the consolidation of a jihadist caliphate and countless boat-people. He may worry about the risks of American action and “owning” the Syrian crisis. But the greater risk is standing aside and disowning the Middle East. ■

Pornography

Generation XXX

Free pornography is ever more plentiful online. The right response involves better sex education



IN THE 1990s, when the internet was for nerds, as many as half of all web searches were for sexually explicit material. That share has fallen—but only because everything from home-buying to job-hunting has moved online. Pornography still accounts for more than a tenth of all searches. The number of porn pages is estimated at 700m-800m; one of the biggest sites claims to get 80 billion video views a year.

Whenever pornography becomes more available, it sparks a moral panic. After the advent of girlie magazines in the 1950s, and x-rated rental films in the 1980s, campaigners claimed that porn would dent women’s status, stoke sexual violence and lead men to abandon the search for a mate in favour of private pleasures. Disquiet about the effects of online pornography is once more rising (see page 58). Most of it is now free. As commercial producers fight over scarce revenue, their wares are becoming more extreme. Because of smartphones, tablets and laptops, hardcore material can be accessed privately by anyone. The result is that many teenagers today have seen a greater number and variety of sex acts than the most debauched Mughal emperor managed in a lifetime.

Too little is known about porn in particular and sexuality in general to judge what effect this will have. Prudishness and fear of controversy mean that funding bodies often shy away from sex studies. A survey in 2013 by British researchers found more than 2,000 papers related to the effects of porn on teenagers. Only 79 based their conclusions on solid evidence.

These papers offer some comfort to those worried about anti-porn campaigners’ most alarming claim. Online porn is

not producing a generation of zombies unable to relate to the opposite sex, and porn addiction, if it exists at all, is very rare. And the worriers’ fears were not borne out in the past: since the 1950s women’s status has improved; rape has become rarer; and couples have continued to meet and fall in love. But there is some evidence that porn’s newfound ubiquity is shifting sexual mores. Researchers who have listened to teenagers talk frankly report that, for many, porn is the main source of sex education. Even those who have not viewed it have heard plenty about it from friends. It is shaping their expectations of sex—and what they go on to do.

In an attempt to stem the tide of smut, parents and governments are turning to porn-blockers. Britain’s government wants internet-service providers to activate them as the default. These will help stop younger children from stumbling across porn. But many older ones will seek it out, and most will find it, no matter what obstacles are put in their way (if you do not know what a VPN is, ask a teenager). A better approach would be to take a long, hard look at what is out there—and then start to talk about it.

Kevin, we need to talk

Research funders need to pay for methodical studies of pornography and of sex more widely. Schools need to debunk porn myths: some Danish sex educators have started to discuss pornography in the classroom, using it to get youngsters thinking about issues such as body image and the meaning of consent. Above all, parents need to educate themselves about pornography—and to talk candidly to their children about how little justice it does to one of life’s great pleasures. That will be difficult for many. But the best weapon against misinformation is the truth, not an embarrassed silence. ■

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Sensible migration policy



Although you clearly understand the difference between refugees and economic migrants, you continually elide that distinction ("Exodus", September 12th). Even if there is a case for controlled economic migration, the key word is "controlled". Refugee flows by their very nature are uncontrollable and therefore, a poor basis for an immigration policy that claims to compensate for an alleged lack of workers in Europe. Whatever our emotional response to human tragedy, the lack of control over immigration has already poisoned our politics; we need to be careful about stoking that particular fire.

From my military and UN service, I know that the best way to look after people who have fled their homes is as close as possible to their home country. Our efforts should be directed towards supporting the UN and other groups who are looking after the majority of refugees. This would also entitle us to be completely clear that, once refugees have reached a place of safety, they don't then get to choose where they go next.

If, as you recommend, Britain accepted Germany's approach we would in effect abandon whatever is left of our badly compromised immigration system. Congratulations; you have converted me to Brexit.

SIMON DIGGINS
Rickmansworth, Hertfordshire

You focused somewhat piously on simply adjusting to migration, ignoring the challenges already faced by governments over housing, health care, jobs and so on. It is

questionable whether Europe needs more people to cope with the economic and labour market conditions created by an ageing population. Why not call for substantial tax benefits to encourage larger families rather than depend on importing people? The immigration debate is crafted to exclude such considerations.

ANTHONY JUDGE
Brussels

"Exodus" was a fine editorial. One thing missing was the moral obligation of the United States to take in hundreds of thousands of the refugees. It was, after all, the catastrophically wrongheaded decision by the Bush-Cheney administration to invade Iraq that triggered the murderous events of the past 12 years. Every Middle Eastern leader (except in Israel) and eminent foreign-policy advisers in America, notably, Brent Scowcroft, warned in graphic terms that invading Iraq would unloose chaos in the region and beyond. America's responsibility for the current disaster is large and clear.

RICHARD ABRAMS
Professor of history emeritus
University of California, Berkeley

Europe would not be facing a crisis of Syrian refugees had Bashar al-Assad been left alone and the West had not tried to dislodge him. This is not a defence of the Assad regime but a recognition that sometimes it is better not to meddle in the affairs of other countries. In a way, the West is hoist with its own petard.

YATIN KAKODKAR
President
International Centre Goa
Goa, India

Politicians are right to suspect that behind the current spate of refugees and migrants there are another 100m who are thinking about moving to the West. We have been walking out of Africa for 2m years, motivated by the need to find somewhere safe and productive to raise a family. But most people would rather live where they were born, with familiar people, food and

climate. The way to prevent mass migration is to stabilise and develop all countries.

If Europe takes in a surge of immigrants, that isn't inherently problematic. Europe will become more similar to the globalised communities of Canada, America, Brazil and Australia. There is no moral justification for the apartheid of nationality, when we are born at random into regions of luxury or misery. People should be free to move anywhere, so long as they are prepared to absorb the language and culture of their new land.

ROBIN HELWEG-LARSEN
Director
Andromeda Simulations
Chapel Hill, North Carolina

Support for Corbyn

Jeremy Corbyn's victory to become leader of Britain's Labour Party is astonishing in our rabidly libertarian era ("A new, old politics", September 19th). But does *The Economist*, which is horrified at the prospect of a Corbynite party, remember that after the demise of the Soviet Union it called for just such a genuine left to emerge ("The hole he left behind", December 21st 1991)? Tomorrow's left-wingers, you said, should "rescue the poor...educate all children", "reduce the disparities", and stress "collective responsibility". Since that editorial nothing has changed to suggest we don't need such a left. From everything I see around me, in America as well as Britain, we need Mr Corbyn's politics more than ever.

CAROLE ASHLEY
New York

Yes, indeed; there are some old ideological battles to be refought. It is not sufficient simply to disparage Mr Corbyn, or to hark back to the dismal 1970s to rebut the current surge of interest in Corbynomics. You will need to clarify why bank deregulation; the privatisation of natural monopolies, such as railways; PFI finance schemes; and similar products of 1980s financial capitalism in Britain are worthy of your

support. Do not underestimate the attraction of Mr Corbyn to many unacquainted with Britain of the 1970s, but old enough to be disillusioned by their experiences of the 1980s and 1990s.

MIKE O'KEEFE
London

The war in Yemen

"A downward spiral" (September 12th) shone a light on the largely forgotten conflict in Yemen where civilians account for an increasing number of the dead killed by all sides, including Houthi and anti-Houthi groups and the Saudi-led coalition. Civilian infrastructure including markets, ports, a displaced persons camp and an Oxfam project to supply solar-powered water pumps have been directly hit by Saudi air strikes.

Since the conflict began, Britain has replenished Saudi Arabia's stocks of bombs but has declined in Parliament to give details of numbers or types. If British arms are being used to kill civilians, the government would be in breach of the very law on the sale of arms which it worked so hard to establish under the Arms Trade Treaty.

Britain should suspend its arms sales to Saudi Arabia immediately and investigate.

PENNY LAWRENCE
Deputy chief executive
Oxfam GB
Oxford

Flying economy

I see that United Airlines, facing huge competition, has appointed a railroad executive as its new boss ("The chairman's flight", September 12th). I am sure his experience with cattle cars will serve him well when squeezing passengers into planes.

PETER PRASTHOFER
The Woodlands, Texas ■

Executive Focus

Deputy Director General (Suva)

Ref.: 15-57 , Closing date: 25/10/2015, Location: Suva, Fiji, Duration: 3 years



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[More information on www.spc.int](http://www.spc.int)

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Enquiries may be made to Ms. Gail Grimston, PA to the Director of the IIMR, on 01280 827524, e-mail: gail.grimston@buckingham.ac.uk. Applications in the form of a covering letter and CV should be addressed to Professor Tim Congdon and e-mailed to: gail.grimston@buckingham.ac.uk

**The closing date for applications is 30th October, 2015,
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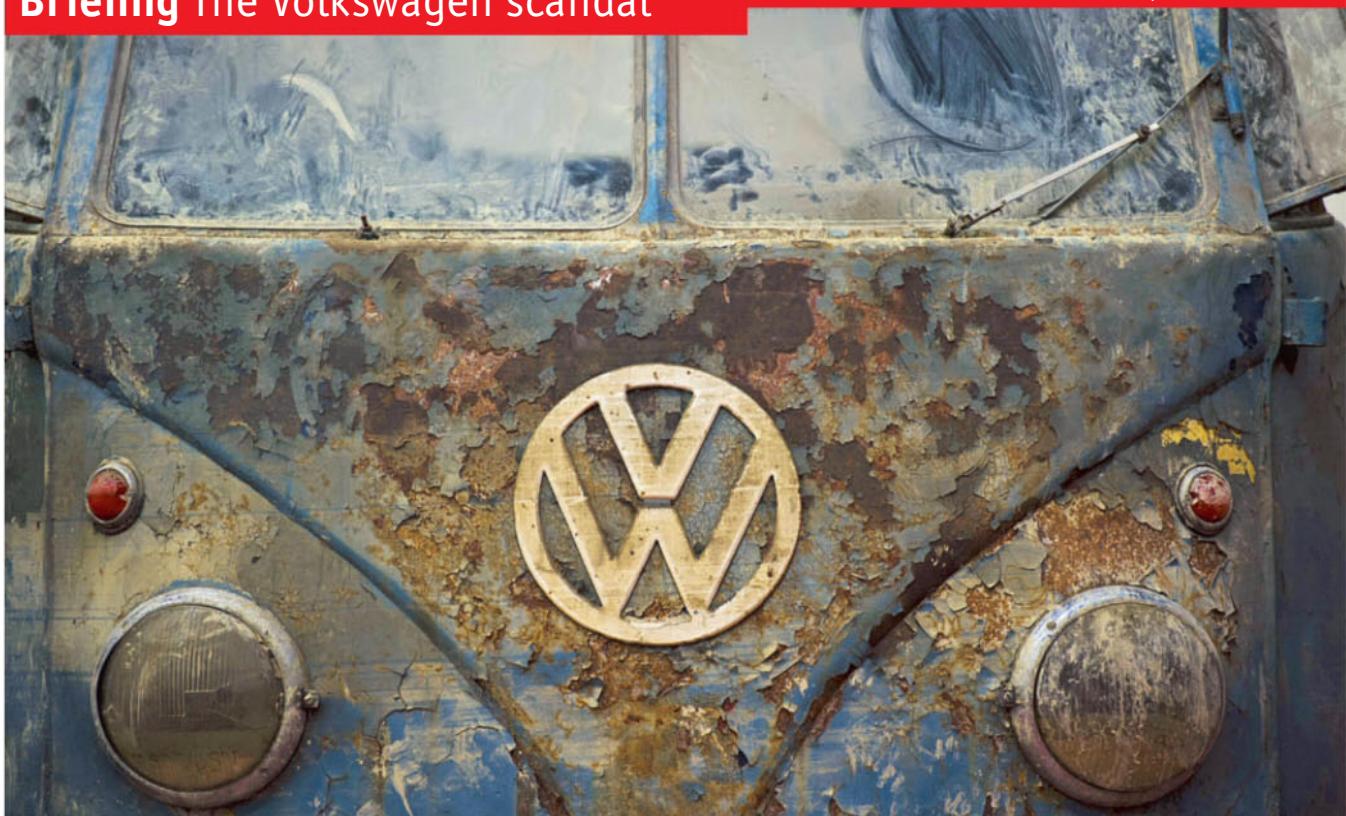
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A mucky business

BERLIN AND NEW YORK

Systematic fraud by the world's biggest carmaker threatens to engulf the entire industry and possibly reshape it

HERBIE, a Volkswagen Beetle with a mind of its own in a series of Disney films launched in the 1960s, had its share of misadventures. But things had a way of ending up happily for both the car and its passengers. The German carmaker's more recent attempts to give its cars the gift of thought have things headed in an altogether grimmer direction. Its use of hidden software to deceive American regulators measuring emissions from diesel-engined cars has plunged vw into crisis. And as the scandal provokes further investigations it seems likely to throw into question a wider range of claims about emissions and fuel efficiency. It could thus be a blow to much of the industry—one that might be large enough to reshape it.

The damage to vw, the world's biggest carmaker, is cataclysmic. The company's shares have collapsed by a third since its chicanery surfaced (see chart 1 on next page). It faces billions of dollars in fines and other financial penalties. Lawsuits will be flying their way to its headquarters in Wolfsburg. Its strategy for the crucial American market is ruined; its reputation is in tatters. Its boss, Martin Winterkorn—who in 2009, when the misleading “de-

feat” software made its first appearance, was also directly responsible for the company's R&D—resigned on September 23rd.

The company's home country is in shock. Germany's environment minister, Barbara Hendricks, spoke for many when she declared herself “more than astonished”—though the Greens, an opposition party, say that in its response to a parliamentary question earlier this year the government admitted that it knew manipulating emissions data was technically possible. Mixed in with this is some embarrassment that, as with the scandals over FIFA and the World Cup, it is falling to America to enforce rules that Europeans have been breaking.

There is also a certain apprehension. Sigmar Gabriel, the vice-chancellor and economics minister, said on September 21st that he hoped the export brand of Germany as a whole would not be tarnished. Germany's economic strength rests in large part on the idea that anything stamped “Made in Germany” will offer a high level of reliability, trustworthiness and engineering prowess. Much of that reputation rests on the broad shoulders and sturdy tyres of the car industry, which

directly or indirectly employs one in seven of the country's workers; and with a stable of marques that includes Porsche and Audi, vw is that industry's leader. Industrialists fret that consumers worldwide could exact reputational *Sippenhaft*—collective punishment, but literally “kin liability”—on all German engineering.

As well as being a threat to Germany's export earnings, the scandal also menaces the brainchild of one of its most eminent engineers, Rudolf Diesel—at least as far as its future in cars is concerned. Diesel engines use fuel more efficiently than engines with spark plugs, and better efficiency reduces both drivers' expenses and carbon-dioxide emissions. Those advantages have endeared diesel engines to thrifty Europeans with green governments; none too popular elsewhere in the world, they power half of Europe's cars (see chart 2 on next page).

Unfortunately, the benefits come with costs. Diesel cars' efficiency comes from burning their fuel at a higher temperature, and that means they turn more of the nitrogen in the air they use for burning into various oxides of nitrogen, collectively known as NOx. This does not have global climate effects on the same scale as those of carbon dioxide, which is the most important long-lived greenhouse gas. But it has far worse local effects, generating smogs and damaging plants and lungs. To make matters worse, the catalytic technologies used to deal with the NOx emitted by petrol engines are not well suited for use with diesels, requiring engine makers to ➤

► deploy more complex and expensive alternatives. That is not a big problem for large engines like those of trucks and ships. But it is for small engines like those of cars.

In America NOx standards are more demanding than they are in Europe. Mazda and Honda, both accomplished producers of diesel engines, have had trouble complying with them. It now appears that vw, which has put a lot of effort into persuading Americans that diesels can be clean and green, would also have failed to comply if it had not cheated. The campaign to convince Americans of the merits of diesel may thus well be at an end. And if it turns out that under real-life conditions many diesels also break Europe's less stringent NOx standards then the future of diesel cars worldwide will be bleak.

Nothing seems right

The scandal broke on September 18th, when America's Environmental Protection Agency (EPA) revealed that several diesel-engined vws and Audis had software which switched NOx-controlling technology on only when faced with the highly predictable sort of demands seen under test conditions. The NOx-emission limit for a fleet of cars is 0.07 grams per mile (0.04g/km); under normal conditions the cars were 40 times over the limit. The EPA ordered vw to recall around half a million cars in America to fix the software. On September 22nd the company admitted that in 11m vehicles worldwide there was a "noticeable deviation" between the NOx emissions seen in official testing and those found in real-world use.

On the basis of 482,000 cars sold and a maximum fine of \$37,500 per vehicle under the Clean Air Act, the Department of Justice could in theory fine vw \$18 billion. In practice the punishment may be a lot less severe. General Motors, which for years ignored problems with ignition switches that directly claimed 124 lives, was fined just \$900m earlier in September. In 2014 Toyota paid \$1.2 billion when it settled a criminal investigation into its handling of unintended acceleration problems that led to 8.1m recalls.

But fines are not the only losses involved. Class-action lawsuits from aggrieved motorists will arrive at the speed of a turbocharged Porsche. On September 22nd vw announced a €6.5 billion (\$7.3 billion) provision to cover the costs of the scandal but that is likely to prove too little. By that stage the company's value had fallen €26 billion.

The financial damage could go further. Hidden within the German firm is a big finance operation that makes loans to car buyers and dealers and also takes deposits, acting as a bank. Its assets have more than doubled in the past decade and make up 44% of the firm's total. And it may be vulnerable to a run. In previous crises "captive-finance" arms of industrial firms have proven fragile. After the Deepwater Horizon disaster BP's oil-derivative trading arm was cut off from long-term contracts by some counterparties. General Motors' former finance arm, GMAC, had to be bailed out in 2009.

With €164 billion of assets in June, vw's finance operation is as big as GMAC was six years ago, and it appears to be more dependent on short-term debts and deposits to fund itself. Together, vw's car and finance businesses had €67 billion of bonds, deposits and debt classified as "current" in June. This means—roughly speaking—that lenders can demand repayment of that sum over the next 12 months. The group also has a big book of derivatives which it uses to hedge currency and interest-rate risk and which represented over €200 billion of notional exposure at the end of 2014. It is impossible to know if these derivatives pose a further risk, but if counterparties begin to think vw could be done for they might try to wind down their exposure to the car firm or demand higher margin payments from it.

If depositors, lenders and counterparties were to refuse to roll over funds to vw, the company could hang on for a bit. It has €33 billion of cash and marketable securities on hand, as well as unused bank lines and the cashflow from the car business. The German government would lean on German banks to prop up their tarnished national champion, 20% of which is owned by the state of Lower Saxony. So far the cost of insuring vw's debt has risen, but not to distressed levels. Still, unless the company convinces the world that it can contain the cost of its dishonesty, it could yet face a debt and liquidity crisis.

Doubts about NOx emissions from vw's four-cylinder TDI series of diesels (which can also be found in Seats and Skodas) first surfaced after testing by the International Council on Clean Transportation, a small NGO, two years ago. The tests—intended, ironically, to demonstrate the engines' cleanliness—revealed that the cars' emissions far exceeded what the company had previously stated. The ICCT brought

A European speciality

Diesel car sales, 2013 or latest, m

Selected countries



Source: International Council on Clean Transportation

the results to the attention of the California Air Resources Board (CARB), which badgered vw into a voluntary recall to fix what the company insisted were "technical issues". When the recall failed to resolve things vw offered excuse after excuse before eventually confessing—it was still dithering when the EPA, with which CARB had shared its results, finally acted.

The image breaks down

Why did vw take the risk of cheating, given the devastation that has followed? There seem to be three parts to the explanation. The first is an overwhelming desire for size. The company has been obsessed with surpassing Toyota and becoming the world's biggest car company, despite making little money from its most high-volume products (cars carrying the vw badge make up 60% of sales but the profit margin on them is just 2%). This required that the company increase its small share of the American market—the largest after China (see chart 3 on next page). Making more of the SUVs that Americans covet was one obvious strategy. Getting them keen on the fuel-efficient diesel engines that vw sells elsewhere was another. In a modest way it was succeeding; though diesels account for only 1% of the American market for cars, last year vw had half of that slim slice.

Though these cars were substandard when it came to NOx, they didn't have to be. According to a British professor who specialises in the subject, "you can solve any emissions problem if you throw enough engineering and money at it". As vw spends more on R&D than any other company on the planet—€13.1 billion in 2014—it is very well positioned for such throwing. But here the second part of the explanation comes into play: fixes to the NOx problem come with trade-offs. Exhaust-gas recirculation, one of the technologies vw uses, reduces both fuel efficiency and power, which drivers tend not to like. Reports indicate that this recirculation was something the software turned off when ►

Crash

Share prices, September 1st 2014=100



Source: Thomson Reuters

► regulators were not looking. Selective catalytic reduction, used in some newer cars, reacts NO_x with ammonia, reducing the eventual level of pollution by a great deal. But designing, installing and operating these systems all add to a car's cost. Easier not to fix the problem, if you think you can get away with it.

Apparently some people at VW thought they could get away with it. And this leads to the third bit of the explanation: a large part of their reason for believing this would have been that carmakers, particularly European ones, are used to getting away with a great deal in such matters. Their trickery is an open secret within the industry; new scrutiny in the aftermath of the NO_x revelations seems likely to make it an open scandal to the world at large. This may be why VW's competitors, too, are seeing their share prices fall. Its crimes may be particular, but it is far from the only carmaker producing vehicles that fall far below the performance that regulators require of them.

The European Union (EU) is not as demanding in the matter of NO_x as the Americans are. It concentrates more on fuel efficiency and carbon-dioxide emissions, where its standards are the highest in the world. The problem is that these tough limits bear little resemblance to what cars emit when on the road. According to Transport & Environment (T&E), a green pressure group, the gulf between stated fuel-economy figures (and by extension carbon-dioxide emissions) and those achieved by an average driver has grown to 40% in recent years (see chart 4).

It is possible that some companies are using software trickery to cheat on Europe's tests on fuel efficiency. But as Nick Molden of Emission Analytics, a consulting firm in Britain, argues, the European testing regime is so out of date and open to abuse that carmakers do not have to bother with such subtlety. The companies test their own vehicles under the auspices of independent testing organisations certified by national governments. But these organisations are commercial enterprises that compete for business. Although obliged to put the vehicles through standard activity cycles both in a laboratory and on a test track—neither of which is remotely realistic—they are aware that their ability to “optimise” the test procedures is a way to win clients. In practice this means doing everything possible to make the test cars perform far better than the versions punters drive off the forecourt.

The cars that are tested have generally been modified to be as frugal as possible. Things that add weight, such as sound systems, are left out. Drag is reduced by removing wing mirrors and taping up cracks between panels. Special lubricants make the engines run more smoothly. Low-resistance tyres are overinflated with special



mixtures of gas. Alternators are disconnected, which gives more power to the wheels but guarantees a flat battery in the end. The cars may be run in too high a gear, and conducting tests at the highest allowed ambient temperature—another efficiency booster—is commonplace.

Stable for days

Worst of all, though, is that once this charade has produced a claim as to the car's efficiency, no one checks whether it is true or not. In America, too, carmakers are responsible for their own tests. But there the EPA goes on to acquire vehicles at random for testing at a later date, to see if the cars on sale to the public live up to the claims. If the numbers do not match up substantial fines can follow. In 2014 Hyundai-Kia was fined \$300m for misstating fuel-economy figures. Europe has no such system for punishing those who transgress. As a result more than half Europe's claimed gains in efficiency since 2008 have been “purely theoretical”, says T&E. And the industry as a whole has developed a gaming attitude to tests and regulations that it should take seriously. As Drew Kodjak of the ICCT observes, VW's activities in America are part of a pattern of behaviour that the “European system created”.

A new level of scrutiny will change things. It may turn out that other manufacturers are using similar software to cheat on either NO_x or carbon-dioxide tests. The NO_x emissions from new diesel cars in Eu-

rope are on average five times higher on the road than in tests; some cars run at ten times the limit, according to T&E. But even if they are not, a wider understanding of the bogus way in which the system runs seems sure to provoke action, and weaken the power of the industry to keep the system lax. Carmakers have been lobbying against the EU's plans to introduce more realistic cycles into their tests by 2017, saying it can't be done until 2020. Their pleading is unlikely now to help; the changes may not just arrive in 2017 but also be more exacting than previously planned.

This all takes place against a background of increasingly strict controls on carbon emissions. Europe's carbon-dioxide goal of an average of 95g/km across all a carmaker's models by 2021 is already demanding. It will be even harder to achieve if it has to be reached honestly. The same goes for more stringent fuel-economy standards that are coming soon in other markets such as China, America and Japan.

The industry had built a continuing shift to diesel into its assumptions about how it would meet these requirements. But if diesels cannot deliver low NO_x emissions while maintaining high fuel efficiency and staying affordable, that assumption will have to be jettisoned—quite possibly taking with it the whole idea of diesel engines for mass-market cars. They are difficult and expensive to develop, and there is already a backlash against them in Europe, where they are blamed for high particulates as well as NO_x; both Paris and London have talked of banning them.

If diesels cannot deliver then carmakers will need to turn heavily towards hybrids and very efficient small petrol engines. All this at a time when, according to Mary Barra, boss of GM, carmaking already faces more change in five to ten years than in the previous half-century. On top of meeting environmental targets and pioneering new hybrid and all-electric drivetrains carmakers need to spend a lot on using the internet to make their machines smarter and preparing them for the advent of autonomous driving. The investment required will be monumental, and some will surely be unable to bear it.

Meanwhile cut-throat competitiveness is only going to get more intense as non-carmakers with deep pockets, such as Google and Apple (see page 66), eye up the industry. One answer is consolidation to tackle overcapacity. Big mergers have generally proved disastrous in the industry—but then so have attempts to become number one by other means. It was a devotion to size above all things that led to Toyota's devastating outbreak of quality defects in the late 2000s, and the same ambition has played its role in the downfall of VW. If the gathering emissions scandal has any virtue it may lie in forcing a reshaping that the industry badly needs. ■





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The prospect of a shutdown

The madness resumes

WASHINGTON, DC

A row over abortion is giving a group of Republican congressmen an excuse to sabotage the government

TO UNDERSTAND why some people are incapable of learning from their mistakes, neuroscientists in Albuquerque, New Mexico, scanned the brains of 96 convicts. In repeat offenders, they discovered, an obscure quarter of the brain known as the anterior cingulate cortex was barely active. It would be interesting to carry out the experiment on the 40-odd Republican congressmen, members of the self-styled Freedom Caucus, who are aching for a fight with Barack Obama over the budget. If they have their way, past fights suggest, the result will be a funding crisis leading, from October 1st, to the closure of all non-essential government departments, misery for millions, damage to the economy and a further loss of trust in America's democratic institutions, starting with the congressmen's own party.

The opportunity for recidivism arises because the House of Representatives has failed to pass a federal budget for the financial year beginning next month, as it often does. The full budget process, involving the passage of a dozen appropriations bills, has not been completed on time for more than two decades. And there is no prospect of bundling the missing bills together; Republicans want to raise defence and cut welfare spending, Democrats want to in-

crease both, and there is no time to reach a compromise. To keep the government open, Congress must pass a straightforward "continuing resolution" to extend the current funding arrangements for a month or two. But the Freedom Caucus, whose votes the Republicans need for their majority in the House, has other ideas.

Its members mainly object to \$500m of public money allotted to Planned Parenthood, which carries out abortions. The organisation was recently accused, in a sting by anti-abortion activists, of profiting from the sale of fetus parts, a charge it denies. Planned Parenthood also points out that its government funding pays for cancer screenings, syphilis treatment and other non-controversial services; the abortions are funded separately. No matter: "Defund Planned Parenthood" is the new rallying-cry of the angry right.

The Freedom Caucus demands that John Boehner, the Republican Speaker of the House, insert a caveat to that effect into the anticipated continuing resolution. "This is not about women's health," says Mick Mulvaney, a Republican congressman from South Carolina. "It's about trafficking in pieces of dead children." His outrage is sincere; yet what he and his fellows are demanding of Mr Boehner is so reck-

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less and unrealistic, and so consistent with their record of attempting wild, hapless heists against both Mr Obama and the Republican leadership, that these protestations are nonetheless unimpressive.

There is no chance of the resolution Mr Mulvaney wants becoming law. Even if it cleared the House, it would be filibustered away in the Senate, which the Republicans control by a narrower margin. Moreover, if by some miracle it made it to Mr Obama's desk, he would veto it. The government would then shut down, as it did in 2013, after the same group of Republicans demanded, as the price of their support for funding the government, that the then Democrat-led Senate ditch Obamacare, Mr Obama's prize domestic achievement.

Revolting rhymes

That was not a rational ambition, as Jim Jordan, a Republican congressman from Ohio, unwittingly intimated when he predicted that the Democrats would "find Jesus and do the right thing". The ensuing shutdown lasted three weeks, cost an estimated \$24 billion in lost output and most Americans blamed the Republicans; during the crisis they had the worst ratings of either party for over two decades. Yet Mr Jordan, undaunted, says that if Mr Boehner, whose pragmatism has made him hated on the right of his party, would only embrace this latest proposal, it would sail through Congress: "If we call the president on this, we have a chance to win."

The Republican leadership knows that is nonsense; Mitch McConnell, the Senate majority leader, calls linking defunding Planned Parenthood to the budget an "exercise in futility". Even a shutdown would ➤

► not much inconvenience Planned Parenthood, which gets most of its government cash through agencies such as Medicaid, that would not be affected. Anti-abortion campaigners, such as the National Right to Life Committee, say the Freedom Caucus proposal would actually hurt their cause, because of the reputational damage a shutdown would do the Republicans and other pro-life groups.

The cost of shutdown

But I get up again

WASHINGTON, DC

A shutdown would not much hurt the economy—at first

THOMAS HOBBES, a 17th-century philosopher, famously remarked that life without government would be “nasty, brutish and short”. Fortunately, no such fate awaits Americans should the federal government shut down on October 1st. On this occasion, a short shutdown would be more of a scratch.

Most government spending still flows in a shutdown. So-called “mandatory” outlays—on Social Security payments and federal health-care programmes—continue, as do interest payments on debt. Only the third of the budget requiring a yearly rubber-stamp from Congress is frozen (see chart).

That spending, though, includes the wages of almost all government employees. Fortunately, those deemed essential to protect life or property—like, say, air-traffic controllers, or nuclear-submarine engineers—go on working. This rule is generous enough (or government business important enough) that at the peak of the shutdown in 2013 only two in five government employees stopped work. Of those, just under half returned to their offices once government lawyers judged that a law passed immediately before the shutdown allowed most Department of Defence staff to carry on, too.

The result of the remaining furloughs would be delays and disruption, but not chaos. In 2013 national parks closed. Applying for a bank loan became even more tedious, because lenders struggled to check applicants’ Social Security numbers with bureaucrats. Some groups were left out of pocket; the shutdown delayed the Alaskan crab-fishing season because the government was unable to apportion harvest quotas. All these costs matter, but are not catastrophic. One big loss comes from disruption to long-term research projects; frequent shutdowns may deter scientists from starting such studies.

No employees are paid until the shutdown ends—even those who continue to slog. Therein lies one threat to the economy: reduced spending. In March the

Mainstream Republicans are appalled. “Some of those advocating a shutdown are saying they are doing so out of conservative principle, but that’s a strange definition of it,” says Charlie Dent, a Republican congressman from Pennsylvania. “Conservatives are about discipline, order, control, stability, temperance, not instability, disorder, intemperance and uncertainty.” The trouble is, Tea Party types such as Mr Jor-

dan are strange conservatives. They consider conflict with Mr Obama their mission, conflict with their party bosses a secondary duty, and shutting down the government to be possibly no bad thing, given its potential to slim the state. In the bitterly polarised districts they represent—in a country where four-fifths of congressional districts offer no real prospect of a contest between the parties—voters are similarly convinced of these things, which is why there is in fact a deal of self-interest in the Freedom Caucus’s wrecking job. If their house must fall, its members are determined to survive amid the wreckage.

A shutdown looks increasingly likely. Stan Collender, an expert on the budget process, considers the row “the most nakedly political threatened shutdown we’ve seen”, and puts the chance of one at 75% and rising. To keep the government open, as they would like, Mr Boehner and Mr McConnell have two options, neither of which looks terribly promising.

The third kick of the mule

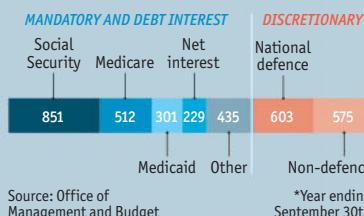
The first, which both are essaying, would be to placate the diehards and win their support for a clean continuing resolution. Mr Boehner has therefore promoted a free-standing bill to defund Planned Parenthood and Mr McConnell made time for a debate on the sort of draft budget, with more military spending and no cash for Planned Parenthood, right-wingers want. Both proposals will fail: whether they will mollify the diehards is open to doubt.

The other option would be to ask the Democrats to make up the numbers for a continuing resolution and, more unusually, perhaps for the procedural vote, known as “the rule”, required to bring it to the floor. There is a recent precedent for both eventualities. In March House Democrats voted to continue funding the Department of Homeland Security, which the Freedom Caucus was resisting in protest at Mr Obama’s immigration reforms. And in June eight Democrats lent Mr Boehner support for a procedural vote on a trade-promotion bill, which was later passed. Beto O’Rourke, a Democratic congressman from Texas, says many Democrats would again step forward. “If the rule promises a clean continuing resolution to keep the government open, a lot of Democrats would be prepared to vote for that.”

But this would reduce the Republican leader’s authority even further. Quite possibly, Mr Boehner’s position would be challenged, creating even more uncertainty on the Hill at a sensitive time. Within the next few months Congress will have to negotiate difficult votes on tax, transport and the debt ceiling, as well as the budget it has so far been incapable of drawing up. Set against that heavy burden, Mr Boehner’s current troubles almost seem minor, and his prospects grim. ■

Keep calm and carry on

Federal outlays, 2014*, \$bn



Source: Office of Management and Budget

*Year ending September 30th

National Bureau of Economic Research (NBER) published research that used data from Mint Bills, a mobile banking app, to see how government employees reacted to the shutdown in 2013. On average, outlays fell by about 50 cents for every dollar of delayed pay. Deferred debt repayments, as well as less spending, accounted for some of that figure.

At the last count, the federal government’s monthly payroll was around \$16.5 billion. This suggests a two-week government shutdown might reduce workers’ spending by about \$4 billion, or 0.1% of quarterly GDP—less, to the extent that debt payments could be deferred. Spending would surge back once salaries were made up (though Congress must legislate to guarantee pay for furloughed workers).

Some low-income federal employees, though, would have to borrow expensively to pay their bills. The NBER researchers found that those with few financial resources to fall back on still had higher-than-expected debt nine months after the 2013 shutdown.

This time, the budget crisis does not coincide with a deadline to raise the ceiling on government debt. That makes it less costly. Unlike a shutdown, a failure to pay bonds would be an economic catastrophe. Jack Lew, the treasury secretary, says the debt ceiling will not need raising until at least late October. If the government is still shutdown then, Hobbesian rhetoric may begin to look more appropriate.

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The Republican primaries

Rubios are red

Scott Walker's withdrawal makes Marco Rubio the co-front-runner

OUTSIDERS don't win presidential nominations any more. Ever since George McGovern, an anti-war insurgent, won the 1972 Democratic primary and then lost 49 of 50 states to Richard Nixon, every major-party nominee has been a former senator, governor or vice-president, and positioned himself closer to his party's ideological centre than to its fringes. Although early voting states occasionally have flings with firebrands, party elites inevitably use their sway over funding, media and unpledged "superdelegates" to guide voters towards candidates who are acceptable to core interest groups and have a credible chance to win the general election.

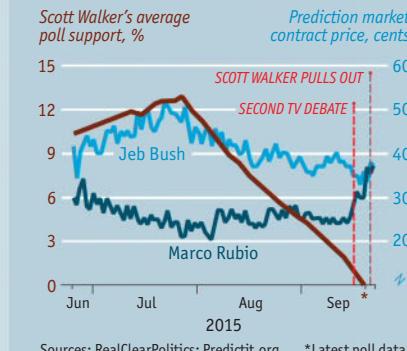
The current leaders in the polls for the 2016 Republican nomination are Donald Trump and Ben Carson. However, barring a stunning reversal of precedent, their failure to impress GOP elders—as measured by their paltry fund-raising totals and failure to secure endorsements—all but precludes them from becoming the party's flag-bearer.

Among the candidates with a hope of surviving this filter, the three thought to have the inside track were Jeb Bush, Marco Rubio and Scott Walker. Mr Bush, the son of one president, brother of another and two-term governor of a big swing state, is the ultimate insider, as reflected by his commanding lead in the money race (he has raised \$120m, 2.3 times as much as the next-ranked candidate). He has been the steady favourite on PredictIt, a New Zealand-based prediction market: two months ago bettors gave no better than even-money odds that he would win the nomination. However, Mr Bush is also refusing to recant his backing for a path to citizenship for undocumented immigrants, and calling to end favourable tax treatment for private-equity managers. That leaves an opening on his right.

One candidate jockeying for this slot is Mr Rubio. He appeals to both the business establishment and to doctrinaire conservatives, and as a telegenic young Hispanic from a working-class family, he offers a striking contrast to the wonky, plodding Mr Bush. However, in the campaign's earliest days, Mr Walker appeared to block this path to the nomination. Like Mr Rubio, he offered the potential to unite Wall Street and the Tea Party. Unlike Mr Rubio, he also could speak the language of evangelical Christians, had a strong record in office as the union-bust-

Making his Marco

Republican presidential nomination, 2016



Sources: RealClearPolitics; PredictIt.org *Latest poll data

ing governor of a Democratic-leaning state and had not succumbed to heresies like Mr Rubio's support for immigration reform. In late July Mr Walker ranked a clear second on PredictIt, leading Mr Rubio by ten percentage points.

All this changed with the start of debate season. Mr Rubio has hardly dominated the contests so far, but he has avoided gaffes and appeared knowledgeable, polished and presidential. Mr Walker, in contrast, was leaden in the first debate and overeager to interject in the second. His suggestions to end birthright citizenship—which he later backed away from—and to build a wall on the Canadian border came across as pandering. And his campaign quickly came under financial strain when it ran low on the direct, federally regulated contributions it needed to pay salaries. Without a fortune like Mr Trump's to fall back on, Mr Walker called it quits on September 21st.

In a field with 15 candidates still active, the departure of one who barely registered in recent polls might seem unlikely to change the race. But there are far fewer contenders competing in the so-called "invisible primary" for elite support, and even fewer for the right-wing end of it (Mr Walker's potential supporters are unlikely to shift their allegiances to moderates like Mr Bush, John Kasich or Chris Christie). As a result, Mr Rubio appears best placed to profit from Mr Walker's exit. Since the second debate, on September 16th, Mr Rubio's PredictIt odds have spiked while Mr Bush's have flatlined, putting them into a dead heat (see chart). Carly Fiorina's surging poll numbers may make her the flavour of the week. But it is Mr Rubio who is taking the slow and steady route to the field's top tier.

Catholic schools

Praying for pupils

HARLEM

Why an enviable record of success has not prevented decline

"I'M GOING to ask him if he has ever taken a selfie and what is his favourite ice-cream," says Allison Reyes, an eight-year-old at Our Lady Queen of Angels, a Catholic primary school in East Harlem. She is one of six pupils selected to meet Pope Francis when he visits on September 25th. "His visit to the school is like gold," says Father Joseph Corpora, of the University of Notre Dame's Alliance for Catholic Education. The pope's presence should also draw attention to the paradox of Catholic schools: they are both highly successful, and starved of pupils.

Children at Catholic schools do better than the neighbourhood public schools in standardised tests despite spending thousands of dollars less per student. Almost all their pupils graduate from high school and 86% then go on to attend a four-year college. They are especially good at teaching minority children: Catholic-educated black and Latino pupils are more likely to graduate from high school and college. Yet despite their academic success, the number of Catholic primary schools has fallen by half since 1965, when Catholic schools had 6.5m pupils. Today the total is less than 2m, which means a lot of empty desks.

The main reason for the closures is financial. Catholic schools used to be financed by tuition payments, with help from the parish and archdiocese to fill the gaps. But demography has undermined ►



A visit from the chairman

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► this model. In 1950 76% of all Catholics lived in the north-east and the Midwest, which is where most of the schools are. Today, just under half do. In the south-west Catholics are more plentiful, but they are not sending their children to Catholic schools as European immigrants once did, because those schools do not yet exist.

Schools in the north-east and Midwest have been hit by both declining revenue and rising costs. Many parishes operate at a loss. Paedophilia scandals have added to the financial stress. Twelve dioceses and archdioceses have filed for bankruptcy since 2004. Legal fees and settlements have cost the American Catholic church billions. School buildings are ageing and expensive to maintain. Labour is dear too: half a century ago, 97% of teachers were in holy orders. Today almost all are laymen, who cost more (nuns were not so concerned about pension plans). Catholic schools also face competition from charter schools, some of which even rent space in their empty buildings. Almost all the closed Catholic schools in Detroit are now occupied by charters.

For the past decade, desperate dioceses have been experimenting. Some schools, like Harlem's Queen of Angels, are no longer part of a parish. Its church closed in 2007 and it is now part of a network of six schools which retains ties with the New York archdiocese but does not receive any money from the church. Kathleen Porter-Magee, the partnership's superintendent, calls it a 100-year startup. Its purpose has not changed, though—about 70% of pupils receive financial assistance and 89% qualify for free or cheaper lunches. Nearly 70% of the pupils are Latino and 22% are black.

This increased distance between Catholic schools and individual parishes is part of a wider pattern. Some schools have merged, so that multiple parishes support one school. Others have formed groups, sharing administration and finances. Others have sponsors. On September 21st Stephen Schwarzman, boss of Blackstone, a private-equity firm, donated \$40m to pay for scholarships to New York's Catholic schools. In Philadelphia, an independent foundation set up by the archbishop to run many schools has set up scholarships, cut a \$6m deficit and centralised administrative functions. Innovation will not reverse the closures, says Sister John Mary Fleming, who heads Catholic education at the US Conference of Catholic Bishops; but it is helping to stabilise Catholic schools.

One solution might be to attract more non-Catholics to these schools. Yet the simplest fix is also the least feasible. "If we could fly schools from Pittsburgh to Brownsville, we'd be in great shape," says Father Corpora of Notre Dame. Brownsville, a Texan diocese on the border with Mexico, has just 14 Catholic schools and nearly a million Latinos. ■



Muslims in the South

Some stand with Ahmed

JACKSON, MISSISSIPPI AND MURFREESBORO, TENNESSEE

Muslims make good southerners, when people let them

AN OUTSIZED Stars and Stripes; a giant car park; a children's playground prettily flanked by hayfields, whitewashed clapboard houses glistening nearby. Osama Bahloul's building has many of the regular accoutrements of southern houses of worship. On his desk inside there is another, miniature, American flag, alongside a Koran. The conspicuous patriotism seems not to have helped the Islamic Centre of Murfreesboro, Tennessee (ICM) and its admirably phlegmatic imam. Dealing with abusive e-mails, Mr Bahloul says, is "part of the daily routine". At least the bomb threats and arson have abated.

The long campaign to prevent the ICM's construction, in which its opponents argued that Islam should not be considered a religion, was settled only after the federal government intervened. The battle was one of the most egregious recent episodes of American Islamophobia, a phenomenon highlighted again by the arrest of Ahmed Mohamed, a 14-year-old inventor who brought a home-made clock to his school in Irving, Texas (earning a consolatory invitation to the White House and a sympathetic Twitter hashtag, #IStandWithAhmed). Mr Bahloul fears that this prejudice, particularly acute in the South, may worsen. The killing in July of five servicemen in nearby Chattanooga, Tennessee by a gunman who may have had extremist leanings, hasn't helped; nor has an attempt by students from Mississippi to join Islamic State. But bigger drivers of enmity, says Mr Bahloul, are foreign woes,

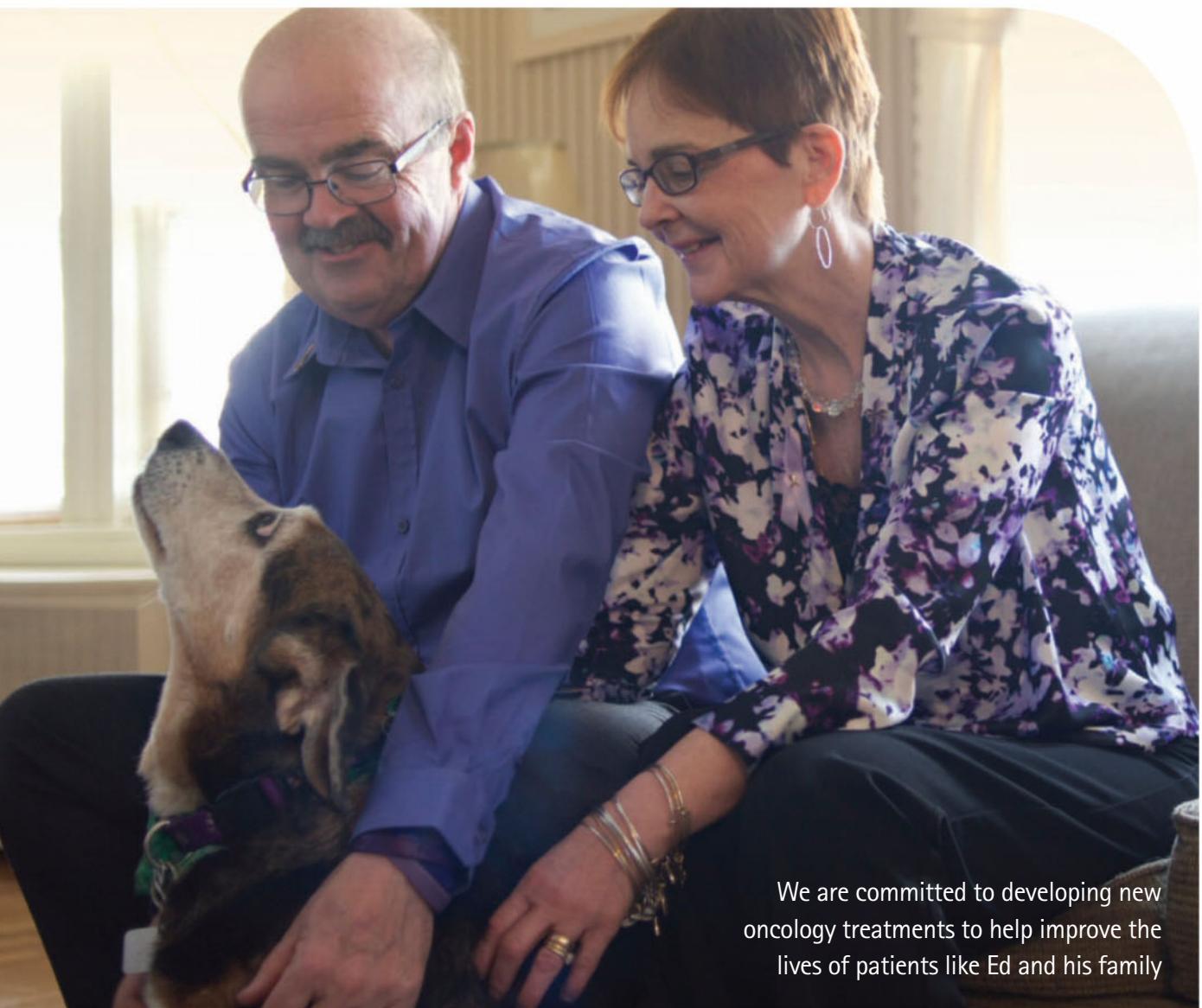
such as the nuclear deal with Iran, and the domestic electoral cycle. The anti-Islamic witterings of some Republican presidential candidates support that analysis.

Politicians, Mr Bahloul says, perhaps optimistically, do not realise the damage they cause. And yet he and many other Muslims in the South have experienced America's manifold benefits—ultimately fair courts, a robust constitution, a quietly tolerant majority—as well as rancour. Their communities demonstrate how far the old, parochial South has changed, as well as some ways in which it hasn't. The discrimination they suffer also illustrates the myopia of some politicians, who seem adept at compromising their own interests as well as those of ordinary Muslims.

This land is your land

In 1828 Abdul Rahman Ibrahim, a prince from Timbuktu enslaved on a cotton plantation for 40 years, was helped to freedom by President John Quincy Adams. Ibrahim was a Muslim, one of many Africans from Islamic regions brought to America in chains. His life is commemorated at the International Museum of Muslim Cultures in Jackson, Mississippi. The original exhibition opened in 2001 and was intended to be temporary, but after the attacks of September 11th that year the museum's founders, Okolo Rashid and Emad Al-Turk, decided it ought to be permanent. They are working on a new installation about Islam's role in America's early development.

Ms Rashid, who is African-American, ►



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► and Mr Al-Turk, a Palestinian, embody the twin backgrounds of American Muslims: black people who often came to the faith via the Nation of Islam, many joining mainstream Sunni Islam in the 1970s, and immigrants from the Middle East, South Asia and elsewhere. Black Muslims seem to be particularly numerous in the South (accurate figures on Muslim demographics are elusive), but immigrants and their families form the majority. Lumping all Christians together, Islam is now the second-most-popular faith in every southern state except South Carolina (where, surprisingly, the Baha'i hold that accolade). By one count, the region accounts for over a third of all the mosques in America.

Muslims are drawn to the South for the same reasons as other newcomers, who in turn have helped to make parts of it, especially university towns such as Auburn, Alabama and Oxford, Mississippi, cosmopolitan and welcoming: the low cost of living, nice weather and professional and technical jobs. Hospital scrubs are plentiful at Friday prayers at the Magnolia Islamic Centre in Madison, a suburb of Jackson. Tauqeer Yousuf, a doctor from Pakistan who is president of the local Muslim association, says some other residents at first tried to block the building, but that "the good thing about this country is that if you follow the rules, no one can stop you." Another worshipper says Jackson's religious climate compares favourably to Saudi Arabia's. Extra police patrols safeguarded the community during Ramadan.

Even amid current fears of terrorist asylum-seekers, many southerners are hospitable. The mayor of Clarkston in Georgia—where a mosque stands opposite a Buddhist centre and a halal butcher next to Good Times Country Cookin'—says his town is ready to accommodate more refugees. And even in Tennessee, scene of the fiercest resistance to mosque-building, the quietly tolerant outnumber the bigots.

But the bigots are noisier. Strikingly, they include not just shock-jocks, Koran-burning cranks and small-town officials, such as the sheriff in Tennessee who recently described Islam as "communism with a god" and worried that Muslims aimed to take over the country. Islamophobia is also widespread in mainstream southern politics, especially among Republicans. The South accounts for six of the ten states that have passed laws to prevent the application of "foreign" (ie, *sharia*) statutes in court, a response to a threat that does not really exist: along with the construction of new mosques, the spectre of *sharia* is southern Islamophobes' main theme. The city council in Irving, where Ahmed's clock caused a stir, voted to support such a law in March.

Two age-old forces help those mongering these scares to find takers. One is southern religiosity. In some places pastors and imams get along fine, even taking advantage of their different holy days to share parking lots. But elsewhere the bilious intolerance previously reserved for Catholics is now directed against Muslims. Some pastors reportedly tell their congregants that Muslims worship a different god; in Murfreesboro, the church next to the Islamic centre sunk a thicket of crosses into the ground when it opened. Some Muslims are bemused that southern Christians so steely defend their own religious liberty but seek to hamper other people's.

Then there is the question of race. Some Muslims think their outsider status means they are exempt from inherited suspicions between blacks and whites. "Whatever the tension between the two of them, we get along with both," says Mr Yousuf in Madison. Others report unhappier experiences—including black Muslims, who also face snootiness about their Islamic credentials from some of their co-religionists. The old association with the Nation of Islam, says Wayne Flint, a historian, means some

people instinctively regard black Muslims as radicals. At the Masjid Muhammad, a much humbler, mostly black mosque in Jackson where men and women typically pray together, worshippers differ as to which attracts greater prejudice: their religion or their skin colour. "Sometimes you get double," says Sabeen Sharrief. Several of the congregants converted to Islam in prison, another source of Muslim America's growth. Shaheed Muhammad, who ministers to local inmates, says at first he was given "holy hell" by prison staff, though the obstructions have lessened.

Of goats and guns

The irony is that Muslims and southern conservatives are in some ways deeply compatible. It is not just the shared emphasis on hospitality. Both have old-fashioned family values and traditional attitudes to marriage. Some scholars of Islam think it supports the idea of limited, unstifling government. "I like the South," says Mr Baholou, the long-suffering imam of Murfreesboro. "I like that they care about religion." Alas, as Hassan Shibly, of the Florida office of the Council on American-Islamic Relations, a lobby group, laments, despite everything the two groups have in common, "They hate our guts so much, we could never partner up with them."

Instead some Muslims, in the South and elsewhere, are taking a different political turn. As Omid Safi of Duke University explains, many are noticing that people who target them often victimise blacks and others as well, and that their own struggle against discrimination is connected to that of other minorities. Rather like some Jewish activists of previous generations, some young Muslims are concluding that the surest way to secure their rights is to see that they are upheld for everybody. As Mr Safi puts it, "To be able to breathe easily in America, it is necessary for everyone to." Some have become involved in protests against police violence in Ferguson, Baltimore and elsewhere.

If Muslims in the South have been involuntarily enlisted into politics, they in turn are becoming more political. Many have a more thorough knowledge of the constitution than most other Americans. And the mutual acculturation works in other, less combustible ways, too. John Shelton Reed, a distinguished southern sociologist, tells a tale about buying a goat from a halal butcher who was wearing a t-shirt emblazoned with "Keep Calm and Carry On" and a picture of a pistol; some barbecue outlets in North Carolina, Mr Reed reports, have added turkey to their (normally porcine) menus to cater to the Muslim trade. This is an ancient two-way process, according to the Islamic museum in Jackson: one of their exhibits speculates about the influence of the Muslim call to prayer on Mississippi blues. ■



Confusion never stops

Lexington | Thundering herd

California's anti-vaccine brigade and the dark side of individualism



DR BOB SEARS, a paediatrician from Orange County, California, does not like to call his patients "free-riders". True, he specialises in treating vaccine-sceptics, those families who resent being told to immunise their children against nasty diseases, from measles to whooping cough. It is also the case that, as a trained doctor, he believes that immunisation works. He agrees that some scary illnesses have almost vanished in America because more than 90% of children are inoculated against them, creating a herd immunity that leaves diseases with few places to lurk. Yet he differs from many doctors in the conclusion that he draws from that success.

Precisely because most children are immunised, he tells parents that it is probably safe to skip or delay jabs for their offspring. This strategy amounts to "hiding in the herd", he says delicately, as he sips a late-afternoon coffee near his surgery. Put another way, his patients worry more than most about possible side-effects from vaccinations, above all the (thoroughly discredited) claim that vaccines cause autism. Dr Bob—as he is known to fans of "The Vaccine Book", his best-selling guide to "selective" immunisation—does not say that worried parents are right. He just thinks that, on balance, they can safely indulge their anxieties by "taking advantage of the herd all around them." When pushed, he makes "no claim" that the alternative vaccine plans that he offers (involving fewer jabs, or jabs administered over a longer period than most doctors recommend) are safer. He concedes that if everyone refused vaccinations, some diseases would roar back.

What Dr Bob does like to say is that, right now, many parents are very upset. This is because state legislators recently passed America's strictest vaccination law. This not only mandates a fixed regime of vaccinations for children who wish to attend public or private school. It also eliminates a parent's right to a Personal Belief Exemption (PBE), a claim that they cannot vaccinate children for religious or philosophical reasons.

California's PBE rules used to be among America's loosest. Most parents took children for shots anyway. But clusters of "anti-vaxxers" grew steadily larger, belying statewide averages of 90% coverage rates. In some places, as many as a third of pupils have shunned vaccinations. Hotspots included granola-and-wind-chime counties around San Francisco. In one school with many

Russian-speaking Pentecostals near Sacramento, more than half the pupils were unvaccinated. The cause has become a populist staple: when not being horrible about foreigners, Donald Trump, the property tycoon running for president, talks of vaccines triggering an "epidemic" of autism.

All this has consequences. In 2008 an unvaccinated boy from San Diego caught measles on a visit to Switzerland, infecting 11 others on his return (Dr Bob will not confirm or deny reports that the boy was his patient). In December 2014 some 117 people caught measles in an outbreak traced back to two Disney theme parks in Orange County. None died, which was lucky, for measles is a horrible virus. Far more contagious than Ebola or the flu, it kills 146,000 people worldwide each year. It can be caught in a bus, a shop or doctor's surgery two hours after an infected person last sneezed there. Even in the rich world and with the best care, measles can cause brain-damage and deafness, and kills about one in 1,000 of those who catch it. Before vaccines, the disease killed roughly 450 Americans each year, most of them children.

Dr Bob accuses legislators of "using" the Disneyland outbreak. It was "quickly contained", he says. Yet legislators passed draconian rules for school pupils anyway. He has, he says, "a little conspiracy theory": schools are one of the few places where legislators can directly control children's health care.

The herd has rights, too

Miles to the north in Sacramento, a very different paediatrician has a simpler explanation for the new law. Dr Richard Pan remembers his first encounter with measles, as a medical student in Philadelphia in 1991. Nine children died, in part because many poor families could not afford vaccinations. After a medical career in California Dr Pan was elected to the state Assembly as a Democrat in 2010. That year California saw a whooping-cough outbreak that killed ten victims. The problem Dr Pan confronted centred not on the urban poor but on affluent, internet-surfing parents refusing to immunise children. In 2014 he was elected to the state Senate, representing Sacramento. Weeks later measles hit Disneyland. He helped write a law to make parents vaccinate children. Medical exemptions are allowed for children with weak immune systems. Parents who still refuse must homeschool their offspring. The law passed, but not before Dr Pan and allies had endured threats and meetings at which activists blamed vaccines for a "holocaust" of harm.

Now the paediatrician-turned-senator faces a recall campaign. If opponents can gather 36,000 signatures they can force a special election. The anti-Pan coalition is eclectic. One organiser, Aaron Mills, sounds like vaccine sceptics in Europe. A longtime Democrat who works for the state's fire service, he believes that pharmaceutical giants and doctors downplay the risks of vaccines and exaggerate their benefits, probably for profit. Another founder of the recall drive, Katherine Duran, denounces the vaccine law in distinctively American terms. She calls it a "theft of liberty". In her telling, Dr Pan has betrayed his primary duty as a legislator: to defend individuals from government "tyranny".

Reassuringly, most Californians side with the medical consensus. Support for the state's new vaccine laws has been measured at 67% and Dr Pan is likely to survive his recall. High-profile outbreaks have shaken a state slipping into complacency, showing the vaccinated majority that their collective immunity is threatened by the science-averse and the simply selfish. Though Americans take individual rights seriously, the herd is fighting back. ■



The Latinobarómetro poll

When the tide goes out

Without growth, there is nothing to distract from the region's endemic ills

LATIN AMERICA is a notoriously cyclical region, and the end of the long commodity boom has hit its countries hard. Although a weakening economy does not necessarily make officials more corrupt or criminals more violent, it does eliminate the distraction from these endemic problems that rising living standards provide. From Tijuana to Tierra del Fuego, discontent is growing. Mexicans are up in arms over the disappearance and presumed murder of 43 student activists; Venezuelan streets have erupted in occasionally violent protests against the authoritarian and economically incompetent government of Nicolás Maduro; and Brazilians are calling for the impeachment of their president,

Dilma Rousseff, as a result of a kickback scandal and a credit-rating downgrade.

This year's Latinobarómetro poll, an annual survey of public opinion produced since 1995 and published exclusively by *The Economist*, reflects this broad souring of the regional mood. Latin Americans are fed up with their leaders: government approval ratings across the 17 countries in the study have fallen from 60% in 2009 to 47% today. They are abandoning political moderation in favour of polarised ideologies, as the share of respondents who call themselves "centrist" rather than "left" or "right" has dropped from 42% in 2008 to 33% now. They are losing faith in civic institutions: 34% of the public say they trust the state, down from 42% in 2013. Most disturbingly, they are drifting from each other. A mere 16% of those surveyed agree that "You can trust most people", which ties the lowest rate Latinobarómetro has ever recorded.

Despite the region's economic slowdown, respondents in only three countries—Colombia, Costa Rica and Nicaragua—list unemployment as their nation's biggest problem. Instead, the most common worry is crime, cited in 12 of the 17 countries. Overall, Latin Americans say they are as concerned about "crime" and "gangs" as they are about "the economy", "unemployment" and "poverty" put together. In many cases the public has good reason to be fearful: gang violence has

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made much of Central America the world's deadliest region, and the demise of a government-sponsored truce between mobs in El Salvador has unleashed a vicious outbreak of shootings. But even in safe countries like Chile, whose murder rate is lower than that of the United States, crime now ranks as the leading concern.

The only country where corruption is seen as the biggest problem is Brazil. Although the South American giant is no stranger to back-room dealings, the revelation that Petrobras, the national-champion oil firm, had overpaid subcontractors in a bid-rigging and bribery scheme worth some \$3 billion constituted a massive scandal even by local standards. Brazilians have taken notice, with some protesters planting brooms on beaches to call for a clean-up of politics (see picture). As recent-►

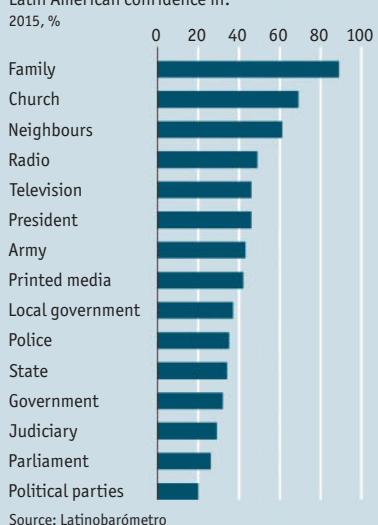
The worst system, bar all the others

Latin America:
GDP per person
% change on a year earlier



Blood and God beat politics

Latin American confidence in:



ly as 2010, just 3% of them said corruption was the country's most pressing challenge; this year that figure has soared to 22%, just above the 20% mark that it reached at the height of outrage over a legislative vote-buying scheme in 2005. The share of Brazilians who say that they or their relatives have come across an act of corruption in the past year is nearly twice as high as in the second-ranked country.

These worrisome trends may prove to be little more than ephemeral collateral damage from the commodity bust. Historical Latinobarómetro data reveal that both support for democracy and satisfaction

with it tend to march in lockstep with the economy: the lowest figures during the past 20 years were registered in 2001, amid the last sustained recession in Latin America (see chart). Similarly, the high-water mark occurred in 2010, which was also the region's strongest year for GDP growth.

But according to Marta Lagos, the head of Latinobarómetro, lurking behind these cyclical fluctuations lies a steady long-term weakness. Ever since the poll began, respondents have consistently ranked arms of the state—like the courts, the legislature and political parties—at the very bottom of the list of institutions they trust. In contrast,

the only three groups that at least half of those surveyed say they trust are their families, neighbours and churches.

Comparing data from different regional studies, Latinobarómetro finds that interpersonal trust in Latin America—ties that reach further than family and friends—lags far behind not just Europe but South-East Asia and the Arab world as well. As Barney Frank, a retired American congressman, often said, “Government is simply the name we give to the things we choose to do together.” It is likely that the fickle faith of Latin Americans in democracy is primarily a symptom of their deeper lack of trust. ■

Bello | A big leap towards peace in Colombia

An ultimatum unblocks a groundbreaking agreement on justice

TIME was when, conceptually at least, ending guerrilla wars was fairly straightforward. In return for demobilising, insurgents would get an amnesty and, if they were lucky, political reforms or even a hand in writing a new constitution. That, broadly speaking, was what happened in the Central American peace deals of the 1990s and with Colombia's M-19 rebels.

But international law has evolved since then. Nowadays blanket amnesties that grant impunity for crimes against humanity are frowned upon. And such crimes are increasingly broadly drawn: as well as massacres they include the abduction and forced displacement of civilians.

For years Colombia's FARC guerrillas have engaged in such practices. For this reason, peace talks between Colombia's government and the FARC—by far the largest surviving insurgency in Latin America, with some 6,000 fighters—have been more drawn-out than many had hoped. Held in Havana, they began almost three years ago. After accords were reached on the first three items of a six-point agenda—on rural development, political participation and curbing drugs-smuggling—the negotiations became bogged down in mid-2014 on the crucial issue of transitional justice, or what penalties guerrilla commanders accused of crimes against humanity should face.

This deadlock came close to causing the talks to collapse earlier this year. In April the FARC broke its own unilateral ceasefire when one of its units in the southern department of Cauca killed 11 soldiers, triggering national outrage and tit-for-tat attacks. In early July Colombia's president, Juan Manuel Santos, called the FARC's bluff. He demanded that the talks speed up, saying that he would evaluate in November whether or not they were



worth continuing.

The gambit worked. On September 23rd Mr Santos flew to Havana and together with Timoleón Jiménez, the FARC's top commander, announced an agreement on justice. The pair said they hoped to sign a final peace accord within six months.

While the rank-and-file of the FARC's fighters will receive amnesties, leaders charged with “the most serious and representative” crimes will face a special tribunal, containing a minority of foreign judges. Those who confess and collaborate with a truth commission will benefit from alternative penalties: between five and eight years of community work “with effective restriction of liberty”, though not in prison conditions. Those who do not collaborate will go to jail for up to 20 years. Similar procedures will apply to the armed forces and those found guilty of financing right-wing paramilitary vigilantes.

The FARC have long insisted that no guerrilla movement in Latin America has ever given up its fight in order to go to jail. That is a fate they may have avoided, but they have accepted a tougher regime than many expected (provided it is properly en-

forced). And they have agreed that they will only enjoy its benefits if they have given up their weapons.

As for Mr Santos, he has always said he wanted “the maximum amount of justice that allows us to have peace”. Has he got that? Most lawyers will say the agreement is in line with international law. It holds the FARC legally accountable for their crimes. But it is less stringent than many Colombians would like. In polls more than 90% of them say the FARC should serve jail time. That has been the view of Álvaro Uribe, Mr Santos's predecessor and now his chief political foe.

Yet many will conclude that an imperfect deal is better than none at all. Armed conflict imposes a heavy burden in loss of life and lawlessness. The total cost of violence in Colombia, including lost output and productivity as well as security spending, is equal to 18% of its GDP each year, according to the Institute for Economics and Peace, an international NGO.

The negotiators' next task is to approve arrangements for the FARC to demobilise and give up their weapons. They have agreed to start this process within 60 days of the final agreement. To be credible, it will require robust international verification and monitoring.

It will be a while before peace starts to become a reality. The ELN, a smaller guerrilla group, is engaged in talks about talks, but could remain a violent irritant. All being well, by June Congress will approve a constitutional amendment that would endow the government with the powers needed to implement a deal with the FARC. Mr Santos has promised that Colombians will get a chance to approve or reject the final agreement. But September 23rd marks a turning point. For the first time in half a century, peace with the FARC now looks inevitable.



Race in Malaysia

Playing with fire

KUALA LUMPUR

A floundering government risks igniting ethnic tensions

THE close-packed shops on Petaling Street (pictured), a dim warren in a Chinese quarter of Kuala Lumpur, Malaysia's capital, often throng with bargain-hunting tourists. This month its mostly ethnic-Chinese stallholders faced crowds of a different kind. Riot police prevented a mob of redshirted protesters—ethnic Malays with a host of grudges—from marching down the street. They eventually dispersed loiterers with water cannon. One protester was filmed calling a journalist a “Chinese pig”. Some are threatening to return.

The unsettling scuffle took place on the fringes of a big pro-government rally held in the capital on September 16th. Some 40,000 ethnic Malays gathered at a park in support of the United Malays National Organisation (UMNO), the party that has led Malaysia's ruling coalitions for nearly 60 years. The day's events were only the latest evidence of rising tensions between the country's Malay Muslim majority and its ethnic Chinese and Indian minorities, who make up about one-third of its citizens. Battling allegations of corruption, UMNO seems careless of the risks.

Malaysia's broad ethnic mix, in part the result of British colonial immigration policies, has long coloured its politics. After a murderous race-riot in 1969, in which mobs burned Chinese shops, officials devised a slew of measures aimed at defusing ten-

sions. Their aim was to reduce inequality between Malays and their richer ethnic-Chinese compatriots. Malays were guaranteed a quota of places at universities and the right to own shares in all listed companies, among other benefits. Though billed as temporary, many of the measures are still in force.

Since then Malay incomes have risen rapidly (see chart). But greater equality has come at a cost. Critics say that state-sponsored favouritism has hooked Malays on handouts and government jobs, and helped to enrich the country's elites—at the same time as enraging ethnic-Chinese citizens, and driving some of the most talent-

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ed of them abroad. There have been growing demands, among Malays too, for the rules to be scrapped, or at least refocused on the neediest regardless of their race. When he came to power in 2009 Najib Razak, UMNO's president and Malaysia's prime minister, sounded as if he agreed.

All that changed after a general election in 2013, when the government retained power despite losing the popular vote. UMNO itself managed to gain seats at the polls. But voters deserted the small ethnic-Chinese and Indian parties with whom it rules in coalition, fleeing to a resurgent and more ethnically balanced opposition. Instead of trying to lure them back, UMNO has focused on refurbishing its reputation as a champion of ethnic Malays and of Islam, their traditional religion. As well as losing interest in reforming discriminatory policies, it has become less disapproving of religious types appalled by pop concerts, dog-petting and women's gymnastics. It is playing along with Islamists who are trying to introduce strict *sharia* punishments in a devout northern state.

Malay chauvinism has accelerated sharply amid a political crisis which began in July, when a report in the *Wall Street Journal* alleged that almost \$700m had entered the prime minister's bank accounts shortly before the election. Mr Najib denies any wrongdoing; Malaysia's anti-corruption commission says the money was a legal political donation from unnamed Middle-Eastern benefactors. A hasty cabinet reshuffle ousted dissenters within UMNO, but elevated pro-Malay hardliners in their place. The party has taken to claiming that its critics are part of a plot to topple the government, backed by foreign media.

In particular, spin doctors have demobilised the tens of thousands of Malaysians ►

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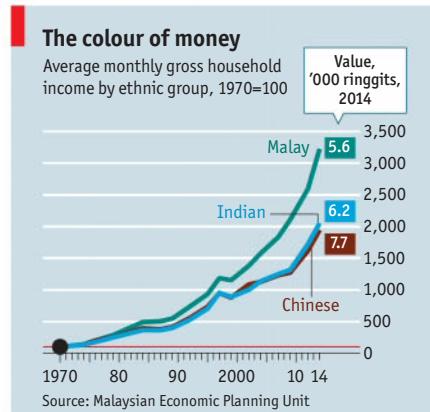
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▶ who called for Mr Najib's resignation at peaceful demonstrations in August, which were organised by Bersih, an electoral reform group. Angered at what looked like efforts to derail official inquiries into the *Journal's* allegations, citizens from all Malaysia's races attended—though ethnic-Chinese protesters were most numerous. The authorities railed against a handful of rally-goers seen stamping on photos of Mr Najib; bigwigs in UMNO accused the protesters of disrespecting all Malays. In mid-September grim footage emerged of low-ranking UMNO members burning effigies of two ethnic-Chinese opposition leaders, which they had dressed in Bersih's signature yellow shirts.

Organisers of this month's big counter-rally—leaders of Malay organisations with links to the ruling party—lamented the sad sideshow in Petaling Street. But they insisted that the main red-shirted gathering was an essential response to the provocations

and humiliations which Bersih's protest is said to have caused. In a speech on September 18th Mr Najib congratulated participants in the red-shirt rally: he implied that Bersih's demonstration had “slapped” ethnic Malays. The previous day his new deputy, Ahmed Zahid Hamidi, had said that Malays would “rise to defend our dignity” when “pushed against a wall”.

Most ordinary Malaysians reject racial rhetoric. But with more red-shirt gatherings in the offing, the risk of more serious altercations is rising. The spats are distracting the government from tricky and badly needed social and economic reforms. They are also worrying ethnically pluralist neighbours, such as Singapore, which frets about infection.

As this year's chair of ASEAN, a group of South-East Asian states eyeing closer integration, Malaysia had pledged to promote a more modern and prosperous region. It is sinking deeper into its past. ■

church spokesman who lives in France. Other leaders of banned sects, including evangelical pastors in the Central Highlands, a restive region with many ethnic groups, have fared almost as badly.

After a trip to Vietnam in 2014, the UN's special rapporteur on religion said that planned visits to parts of the Central Highlands and the Mekong Delta, a stronghold for worshippers of the Hoa Hao Buddhist faith, had been “unfortunately interrupted” and that some Vietnamese he had wanted to meet had been threatened by police. Officials, presumably, wanted to conceal their efforts to suppress religion.

The party has somewhat softened its stance. Since the 1990s, temples, pagodas and churches have been refurbished and allowed to celebrate religious holidays, such as the Buddha's birthday, that were once taboo. But the government has issued more regulations governing worshippers and their faiths, with dispiriting results. One such was a law on religion passed in 2004 that criminalised the “abuse” of religion to undermine national security. Another decree, issued in 2013, made it more difficult to register religious groups.

Next month the National Assembly, Vietnam's parliament, plans to debate another law aimed at streamlining these statutes. A draft version includes some small improvements, such as reducing the amount of time a religious organisation must have operated in Vietnam before it can be formally recognised by the state from 23 years to ten. Senior legislators quoted by the official Vietnam News Agency say the law will help to bring domestic religious policy in line with the International Covenant on Civil and Political Rights, which Vietnam signed in 1982. Yet critics, including Human Rights Watch, a New York-based NGO, say the law is so vague that it could give Vietnam's powerful security state even more freedom to police religious groups that it does not like.

In May the Interfaith Council of Vietnam—a group of dissident religious leaders of various faiths—wrote an open letter of protest denouncing the law as a ploy by the party to reinforce its power and stifle worship. Dinh Huu Thoai, a Catholic leader and one of the letter's 22 signatories, says the law's text is riddled with arbitrary and confusing clauses. For example, it allows worship in homes and other “legal” places, but does not say what is legal.

It is difficult to predict how harshly the authorities will interpret the bill. But its passage will certainly do little to boost the government's image as a defender of human rights. Thich Khong Tanh, the monk at Lien Tri Pagoda, reckons that freedom of worship is only improving for those who belong to state-sanctioned denominations. “Anybody who is independent will face oppression and difficulty,” he says. His own troubles are far from over. ■

Religion in Vietnam

Higher powers

HO CHI MINH CITY

A proposed law on religion will not help the faithful

BULLDOZERS are idling outside the Lien Tri Pagoda, a complex of yellow buildings near the Saigon River. Officials plan to destroy it and fill this sparsely populated district of Ho Chi Minh City with skyscrapers. One property firm calls the area the “Pudong of Saigon”, referring to a glittering riverside district of Shanghai. But the pagoda's chief monk, Thich Khong Tanh, is not so enthusiastic. He is fighting eviction.

Mr Tanh says the lure of profits is not the only reason the authorities would like his pagoda to vanish; it is not officially sanctioned by the Communist Party and is a sanctuary for political dissidents, former prisoners of conscience and disabled veterans who fought for the former South Vietnamese regime. Officials “want to isolate and control us,” he says. “But moving means isolation, so the monks here don't want to move.”

About 24m of Vietnam's 90m people identify with a religious faith; Buddhism and Catholicism are the most popular. But the party has always viewed religion warily, in part because three of its former foes—the French, the Americans and the government of South Vietnam—were friendly with the Catholic Church. After the Vietnam War ended in 1975, the party seized church lands and put pressure on worshippers to join approved denominations like the Vietnamese Buddhist Sangha, which was founded in 1981 and reports to the Fa-

therland Front, a party organisation.

Many religious leaders who refused to accept party control were arrested or harassed. Thich Quang Do, the patriarch of the Unified Buddhist Church of Vietnam, a banned group, has spent three decades in prison or internal exile, or under house arrest in Ho Chi Minh City—“longer than Aung San Suu Kyi,” says Vo Van Ai, a



No peace for Thich Khong Tanh



Pakistan's army

Hail to the chief

ISLAMABAD

Politicians are overshadowed by a publicity-seeking general

THE image of a mustachioed man with a peaked cap and a chest full of medals is becoming hard to avoid in Pakistan. It is splashed across the posters of a politician competing in a by-election in the eastern city of Lahore. It looms large on giant billboards in the port city of Karachi, apparently paid for by adoring citizens. And it is a rare day when Pakistan's chief of army staff is not pictured on a newspaper front page. He has even entered the colourful repertoire of artists who decorate the nation's trucks and rickshaws.

The apotheosis of General Raheel Sharif (pictured, wearing beret) makes it harder than ever for his unrelated namesake, Nawaz Sharif, who is prime minister, to claw back powers from an army that has directly and indirectly controlled Pakistan for most of its history. Nawaz Sharif's election victory in 2013 resulted in the country's first transfer of power from one civilian government to another. But the extent of his authority is debatable: the army is reasserting itself.

This marks quite a turnaround for an institution that eight years ago was so unpopular that off-duty soldiers in the most restive areas were advised not to wear their uniforms in public. The long rule of General Pervez Musharraf, a coup-maker, had seriously tarnished the army's prestige. A particular setback was the violence unleashed in central Islamabad in 2007 when General Musharraf decided to clear out a pro-Taliban mosque in the heart of the city. The army was humiliated in 2011 when the public discovered Osama bin

Nepal's politics

Charter fights

A new constitution fuels strife

IT WAS meant to usher in a new era of peace and prosperity. But Nepal's new constitution, which was adopted on September 20th, has succeeded so far only in generating bloody conflict.

For weeks before it was promulgated, protests over it had already been roiling the country's southern belt bordering on India. They have been staged by ethnic Tharus and Madhesis in the Terai plains (see map), who make up more than a third of the country's 28m people. Many of them are angry about the formation of new states which they fear will leave them even more politically marginalised. Over 40 people, including ten police officers, have died in the unrest. The violence, including shootings by police, has exacerbated tensions between the Madhesis, who have strong links with India, and the central government which is dominated by politicians from the hilly north. It has also created considerable ill-will in India, a country which Nepal normally tries to keep onside.

Inhabitants of southern Nepal harbour long-simmering grievances: they regard politics in Kathmandu as the domain of upper-caste elites from the hills who hold them in contempt. Others are angry about the constitution, too. Some religious groups complain that although the charter describes Nepal as a secular country, it defines secularism as requiring the state to protect Hinduism. Journalists worry about numerous clauses granting the government power to curb press freedom.

It was all so different in April, when Nepal was united in grief after an earthquake that killed thousands. Now there is bitter acrimony. The government has yet to devise a plan for rebuilding the coun-

Laden had been hiding next to the country's officer-training school and that American special forces had been able to penetrate deep into Pakistan to kill him.

Today the army is riding high, buoyed by an improvement in security following a decision in June 2014 to launch an all-out campaign against the Pakistani Taliban. Many credit General Sharif with taking the initiative. Operation Zarb-e-Azb has seen key towns in the former Taliban sanctuary of North Waziristan retaken by the state. Militants have been hunted down elsewhere, particularly in Karachi, which had been a major centre of Taliban activity. All this work has helped cut militant violence by nearly half in the last nine months, ac-

try. Officials bicker over who will control the roughly \$4 billion pledged by donors. In villages, millions endured recent monsoon rains in tin sheds fit only for pigs, waiting in vain for the \$2,000 promised to each household to help build new homes.

Escalating protests did nothing to deter the government from pressing ahead with plans to publish the constitution. The document was technically legitimate: it was endorsed by an overwhelming majority in the national legislature. But regional parties from the south boycotted the voting. On the night of promulgation, while fireworks exploded over the capital, residents of southern Nepal turned off their lights as a gesture of protest.

There may be a glimmer of hope. Nepal's prime minister, Sushil Koirala, has cancelled plans to attend a meeting of the UN General Assembly in New York in order to deal with the crisis at home. His spokesman says Mr Koirala hopes to hold talks with protesters from Terai. Officials do not rule out amending the constitution. That may be the best road to peace.



cording to the Pakistan Institute of Peace Studies, a think-tank in Islamabad.

At the same time the army has been waging a public-relations war, promoting General Sharif as a star. The media dutifully report on his every visit to the front lines and publish photographs of every honour-guard he inspects during his numerous overseas trips.

That General Sharif should receive more than usual publicity is understandable given the country remains mired in a bloody internal conflict. On September 18th 13 Taliban suicide-fighters fought their way into a residential compound of Pakistan's air force near the city of Peshawar and killed 29 people. Sustaining public ►

► support for a war against Islamist militants is tricky given that many on the religious right sympathise with the Taliban's goal of a strict *sharia* state and often avoid condemning their means of achieving it.

But the constant boosting of the army has come at the price of undermining Pakistan's civilian rulers, who come across as petty and ineffectual characters compared with the go-getting General Sharif. Aides to the prime minister have been reduced to pleading with journalists at least to mention him when reporting on events dominated by the army chief. Veterans of Mr Sharif's faction within the Pakistan Muslim League say it is the latest battle in a decades-old fight for supremacy between generals and civilians.

Mr Sharif's hopes of using his landslide majority to clip the army's wings and run his own foreign policy have so far come to nothing. A trade deal with India has founded because of the army's opposition and the difficulties of dealing with a hard-line government in Delhi. The trial on charges of high treason of General Musharraf, who ousted Mr Sharif in a coup in 1999, has been kicked into the long grass.

Few believe the military men are planning another formal takeover. That would likely trigger international sanctions, which the cash-strapped country can ill afford. The army would have little to gain: it already dominates foreign affairs and defence policy, its biggest preoccupations.

There is much speculation, however, that General Sharif will be given an extension of his three-year term in office. He is due to step down in November 2016. Many clamour for him to stay for at least another term. General Musharraf recently echoed these calls. If he does stay on, it would be a setback for civilian government. (There would be a precedent: Ashfaq Kyani, his predecessor, who was credited with rolling back the army's involvement in politics under General Musharraf, was given an extension in 2010.)

The aura surrounding the army chief has extinguished what little public scrutiny there was of his institution. Such oversight is badly needed as the army's power expands. Military courts have started hearing terrorism cases. The army sits on "apex committees" that co-ordinate security matters in each of the four provinces. Through the paramilitary Rangers force it is largely in charge of policing in Karachi.

No one is calling for a drive against the corruption that pervades the army's vast commercial empire. Nor have questions been asked by Pakistan's media about how so many gunmen were able to enter the air force camp near Peshawar. General Sharif rushed to the scene and met injured troops. After the attackers were killed his spokesman pronounced the army's response "a huge success"—another feather in the cap of Pakistan's strongman. ■

A new role for Japan's Self-Defence Force

Abe's "stain"

China's angry reaction to Japan's new security laws is echoed at home

AFTER days of ill-tempered wrangling inside and vocal protests outside, the upper house of the Japanese Diet (parliament) passed a series of security bills on September 19th aimed at substantially modifying the way the country's post-war pacifist constitution is interpreted. The vote, of 148 to 90, was pushed through by Shinzo Abe's conservative coalition. It marks a significant break with the past that has caused both the prime minister's popularity to plummet and outrage in China, but has been largely welcomed by Japan's regional neighbours and allies (apart from South Korea).

The main effect is to allow Japan's Self-Defence Forces (SDF) to help America and its allies even if Japan is not under attack itself. Although the Diet will have to approve any deployments abroad—a concession by Mr Abe to get some smaller parties onside—it means that the long-standing bilateral security pact between America and Japan ceases to be a one-way street obliging the United States to defend Japan but not the other way round. It will also make it possible for Japanese troops to be sent on UN peacekeeping missions in more forceful roles. An interesting early test could come in South Sudan, where both Japan and China contribute to the UN effort. Under the new laws, the SDF could find itself fighting alongside Chinese soldiers should they come under attack.

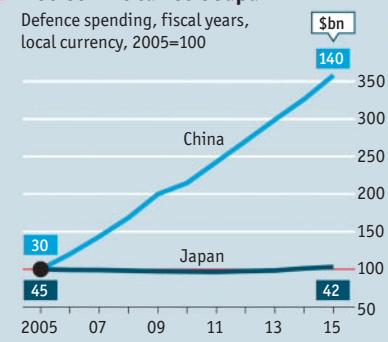
Nonetheless, China has lambasted Mr Abe's government. Within hours of the vote in the Diet, the Chinese Ministry of Foreign Affairs "solemnly" urged Japan "to learn hard lessons from history" and "to promote regional peace and stability, rather than the opposite."

When the legislation was passed by the Diet's lower house in July, China's state-run news agency, Xinhua, called it a "dark stain for Japan" that marked the country's return to militarism. One commentator compared it to a samurai sword wielded by Mr Abe in "fatally slashing Japan's seven decades of pacifism". China has been careful to aim its fury at what it sees as the menacing nationalism of Mr Abe and his supporters, distinguishing them from the majority of Japanese people who it says have been "betrayed".

China is right to remind Mr Abe that many of its citizens have neither forgiven nor forgotten the appalling brutalities his country visited on them during the second world war. But it seems oblivious to the im-

Not-so-militaristic Japan

Defence spending, fiscal years, local currency, 2005=100



Sources: National sources; Thomson Reuters

pact its own military ambition is having on its neighbours, including Japan. China's defence spending in real terms doubled in the five years to 2009, increased by nearly 50% in the five years after that and will rise by over 10% this year despite the slowing economy.

Japan is raising defence spending, too, but at nothing like the same clip (see chart). This year, its military budget has increased by 2% to ¥4.98 trillion (\$42 billion) and next year will go up by 2% again. Although China's defence outlay was officially \$132 billion last year, SIPRI, a think-tank in Stockholm, estimates the real figure is \$216 billion. Almost every other country in the Asia-Pacific region is also increasing its military spending. But they are doing so in response to China's build-up and its hardline approach to the many territorial disputes it is involved in with its neighbours.

Almost certainly what China most dislikes about the new operational latitude for the SDF is the boost it should give to Japan's sometimes fractious security alliance with America. In particular, it sees the potential for closer co-operation between the SDF's maritime arm and America's navy as a direct and unwelcome challenge.

But for now Beijing will take comfort from widespread public opposition to the new laws in Japan. The president of Japan's powerful bar association, Susumu Murakoshi, has vowed to overturn them in the courts. Echoing Xinhua, Mr Murakoshi declared that Mr Abe's laws had gone against the will of the people and "left a black stain on the history of Japan as a constitutional democracy". However contrived Beijing's worries about Japan's military power may be, many Japanese seem to share them. ■

Banyan | Reversion to the mean

China's new infrastructure bank has gained wide support. Lending will be tougher



WITH his wavy silvery hair, relaxed demeanour, and fluent colloquial English, Jin Liqun comes from a different mould from the one that churns out the standard senior Chinese official: raven-locked, stiff-necked, monoglot. That is perhaps one reason why China chose him to lead the team setting up its new Asian Infrastructure Investment Bank (AIIB). Another is a career that seems to prepare him ideally for the role—as an official of the finance ministry, vice president of a multilateral development bank, boss of an investment bank and chairman of a sovereign wealth fund.

His presence alone helps explain why China has been so successful in attracting other countries to back the AIIB. Mr Jin played a leading role in overcoming suspicions about the bank—such as that, by offering less stringent lending conditions, it would threaten existing multilateral lenders, notably the World Bank and the Asian Development Bank (ADB). Indeed, Mr Jin's biggest difficulty may no longer be to establish the AIIB's credibility, but to demonstrate why, if it hews so closely to principles followed by the existing banks, China felt the need to promote it at all.

The saga of the AIIB's life so far, since its creation was announced by China's president, Xi Jinping, on a visit to a regional forum in South-East Asia in 2013, has been of a victorious campaign against American-led scepticism that played on three fears about Chinese intentions. One was that the bank would be used to finance projects where the tendering process would be skewed in favour of Chinese contractors. A second was that, in its eagerness to see results, the new bank would skimp on safeguards—relating to the environment, for example, or the effects of construction on local residents. The other was that the AIIB had a geopolitical aim: to help China achieve its goal of making itself the hub of Asia's infrastructure links by boosting development along its traditional trading routes to Europe—a policy summed up by Chinese officials as “One Belt, One Road”.

But American attempts to persuade its friends to shun the AIIB seemed merely churlish, since Asia's need for investment in infrastructure is so massive. Speaking in Singapore on September 19th, Mr Jin cited an estimate by the ADB itself: \$730 billion a year until 2020, predominantly for electricity generation, roads and telecommunications. Indu Bhushan of the ADB says that, even

after the AIIB is fully operational, the multilateral development banks may be able to finance 5% of that need, at most. Some of America's closest allies, including Australia, Britain and South Korea, ignored its warnings and signed up. Canada, Japan and America itself remain the biggest holdouts. In addition to the 57 “prospective founding members” which last month chose Mr Jin as the bank's “president-designate”, more than 20, he says, are “on a waiting list”. He says America, too, may join one day (tactfully ignoring the fact that Congress is more likely to approve reform of the IMF, or outlaw apple pie, than to endorse the transfer of American taxpayers' money to a Chinese-initiated bank).

The AIIB is on track for a formal inauguration later this year; and to start considering its first batch of projects, says Mr Jin, in the second quarter of 2016. Meanwhile, the existing development banks are keen to emphasise how much they welcome its emergence. The talk is not of competition and rivalry but of collaboration and complementarity. This week the ADB's president, Takehiko Nakao, met Mr Jin in Beijing. The two agreed to identify future ADB projects that the AIIB may be able to co-finance.

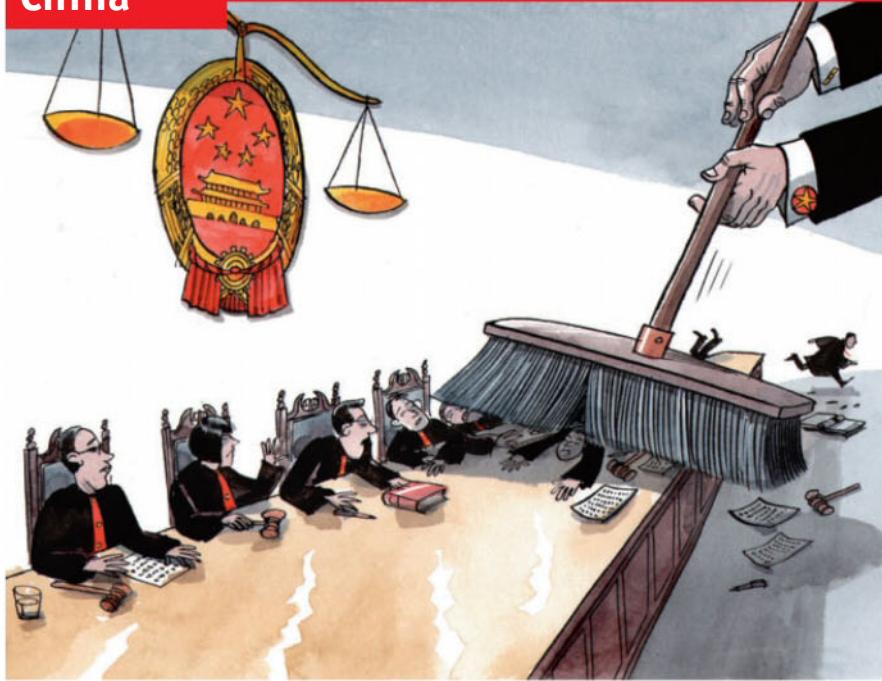
Surely, though, it is not the AIIB's primary function to become another source of finance for projects led by the ADB or World Bank? To demonstrate that it plugs a gap, it will also need to prove that it has at least some different project-selection criteria and operational practices. Mr Jin distinguishes the AIIB's approach in two ways: it will work more with private-sector lenders; and, rather than pursue poverty reduction and economic growth directly, it will remain true to its “infrastructure” mandate.

That will not be easy, however. The biggest problem facing infrastructure finance in Asia is not, at present, a shortage of funds. According to professionals at the existing development banks, it is a shortage of projects. The need seems bottomless; the demand is not, since relatively few proposed infrastructure projects have been through the painstaking process of detailed design, feasibility study and environmental- and social-impact assessments. And of those that have, fewer still can demonstrate a reliable source of revenue out of which loans could be repaid: electricity-purchase agreements for a power station, say, or tolls for a road. Mr Jin says that, on the contrary, there is a backlog of bankable projects that have been through most of the hoops, especially in low-income countries. But he also acknowledges that the AIIB's mandate requires it to spread its loan assets across the region. It cannot lend only to its poorest countries.

Don't show me the money

A second hurdle to turning grand infrastructure plans into actual building work is implementing them. Often, capacity is lacking or local regulations—on land-acquisition, for example—get in the way. Sounding for once like a conventional Chinese official, Mr Jin argues against development banks' “meddling” in countries' internal affairs. But in many countries such as India, Indonesia and the Philippines it is those internal affairs that keep so many projects stuck on the drawing-board for so many years.

AIIB bulls recall the 1960s, when similar reservations—then about perceived Japanese domination—clouded the ADB's launch. Yet the World Bank and the ADB have co-existed well enough. There is no reason why they should not make room for the AIIB as well. So Asian infrastructure will have another welcome source of finance, and China a modest boost to its “soft power”. But if it wants a multilateral bank to pursue its own commercial or policy objectives, it may have to look elsewhere. ■



Legal reform

Judging judges

BEIJING

To help build “the rule of law”, China is demoting judges

“I WAS tired of it. I did not like the pressure, so I chose freedom.” This is how a former Chinese judge describes his decision to quit as president of a provincial court and take up a new job in academia. It would have helped if he had earned more. A judge with years of court experience makes as much as a well-paid college graduate—a fraction of what a lawyer could earn, or a law professor who does freelance work on the side. Hence many of China’s best-qualified court officials are quitting. The government, eager to show that it is building “rule of law”, is struggling to stop the haemorrhage.

Official statistics would seem to suggest that China is not short of judges. There are said to be around 200,000 of them, or more than 14 per 100,000 inhabitants. Each Chinese court has an average of around 60. By comparison, litigious America has 11 judges per 100,000 citizens. But in China many of those described as judges work in administrative roles, and many do not have law degrees. Well-qualified judges have thus found their caseloads soaring—but not their pay. They still earn the same as back-office colleagues who also, inappropriately, enjoy the title of judge. To the chagrin, no doubt, of some, President Xi Jinping’s fierce campaign against corruption, launched when he came to power three years ago, has reduced opportunities

for taking backhanders.

Mr Xi’s anti-graft drive is part of a campaign to convince a cynical public that the Communist Party is bound by the law and wants it to be applied fairly. To achieve this, he is trying to reform the courts to allow justice to be dispensed more swiftly and impartially. Officials have been threatened with punishment if they interfere with cases. The pay of proper judges will be boosted substantially. The size of the increase has not been made public, but it is expected to be at least 50% at first. And their status will, in effect, be enhanced by downgrading the titles of lesser judges.

Not so easy

At a meeting of court officials in July, a deputy chief of the Supreme Court, Shen Deyong, said there would be “a series of challenges and difficulties” in implementing reforms. But he said that targets for sifting the ranks of judges would be strictly enforced. He ordered courts to begin evaluating their staff to see who should make the grade. In Shanghai, courts have been ordered to retain only a third of their judges. The rest are to be given new, more fitting, titles, such as “legal assistant” and “administrative officer”.

Given the heavy-handed way Mr Xi has tightened his personal grip on the levers of power, suppressed the media and intimi-

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dated independent lawyers, it is easy to doubt his commitment to the rule of law. But Susan Finder, an expert on China’s legal system based in Hong Kong, says that the reforms are nonetheless making a difference. The majority of court cases, she notes, do not touch on politically sensitive issues of the kind that independent lawyers often like to take up, such as abuses of power by local officials. It is therefore possible to improve the judiciary (not least in the eyes of the public) without threatening the party’s grip on power.

In political cases, few doubt the party will continue to put its thumb on the scales of justice. It does this through “political and legal committees” which co-ordinate the work of the police, prosecutors and judiciary at every level. The power of these committees reached a peak under Zhou Yongkang, who was the leader of the party’s most powerful body of this kind between 2007 and his retirement in 2012. Despite the recent sentencing of Mr Zhou to life imprisonment in a sensational corruption case, there is no sign that Mr Xi wants to abolish the committees—even if he would like to reduce their involvement in the decision-making of courts.

In civil and commercial cases, officials often interfere to protect their own interests, or those of friends or family. This causes much public resentment and is the main reason why thousands of petitioners head to Beijing every year to seek redress from the central government—a potential cause of social unrest that alarms the authorities. Last month measures were enacted that prohibit courts from heeding requests from “any organisation or individual” that would impede judicial fairness. Courts must now record and report promptly and fully on such requests, ►

► even oral ones, "so that the entire process leaves a trail, permanently preserved".

To shield courts further from interference, responsibility for judges' salaries and job assignments will shift from governments at the same level to higher-level ones. These are considered less likely to have a stake in the verdicts.

The reforms should greatly improve the working environment for those judges who keep their titles, as should the increase in salaries. That they are urgently needed is evident: in Shanghai alone, according to state media, 86 judges resigned last year—half of them with advanced de-

grees in law. The majority were younger judges who were among the system's most highly prized. Between January and the end of March, another 18 had quit, amid double-digit growth in the number of cases being handled by the city's courts.

As the title adjustments get under way, those who fail to make the cut will face a difficult choice: stay on with their diminished status or seek employment elsewhere. Coming out on the losing end of the evaluation process may not be a stellar credential. But the value of their powerful connections should still be worth something in the job market. ■

easier for white-collar workers to move around the country without worrying about extra welfare costs, the government earlier this year allowed 62 cities and districts to set new rules including, in many, a points system which scores applicants by such criteria as education, wages and taxes paid. Points can also be given for good citizenship, such as donating blood. Those who score above a certain level (which varies by city) can be given local *hukou*.

Ms Yuan may one day be lucky: her neighbourhood, Tongzhou district in Beijing, is being allowed to try a points system. That is rare. Giant cities, such as Beijing, Shanghai and the southern city of Guangzhou, have been told by the national government not to allow much reform because they are big enough already and it wants smaller cities to grow faster. *Hukou* is still seen as useful for regulating the pace.

In Guangzhou applicants for *hukou* under the points system must have been making social-security contributions in the city for at least four years, have no criminal record and have complied with the country's family-planning rules, which allow most couples to have only one or sometimes two children. Only 60 points are needed, which means those with degrees should be a shoo-in (see chart). But since 2011 Guangzhou, with 9m migrants, has limited the offer to 3,000 people a year.

This may not bode well for migrants in Tongzhou, who make up about half of the district's 1.3m residents. They, and others like them in the capital, are often jokingly known as *beipiao*, or "northern drifters", because their lack of local *hukou* means they are commonly regarded as only semi-settled in Beijing, the "northern capital". If Tongzhou is as strict as Guangzhou, as is likely, only a few hundred a year will benefit from the reform. ■

Managing migration

No riff-raff

TONGZHOU

Some cities are lowering barriers to internal migration—for a privileged few

YUAN QUAN has beaten the odds as a young woman from a small mountainous city in Hubei, a province in central China. She earned one of the few spots available to non-local students at a prestigious university in Beijing and has been living in the capital for 14 years, working as a television director. But the pension she will one day receive is tied to the lower costs of living in her home town, so she stands to get much less than Beijing-born colleagues. She cannot get the same cheap healthcare. If she has a child, she would have to pay far more than locals for education.

The discrimination routinely endured by less-skilled internal migrants is the subject of much debate in China. But the disad-

vantages suffered by those like Ms Yuan, who are well educated, are given less attention. Recent changes in the system of household registration, known as *hukou*, aim to remedy the plight of the highly skilled. But only a lucky few will benefit.

Everyone in China has a *hukou* document which registers where they were born and which gives them rights to education and health services in that location at subsidised prices. The government has long used this system to control migration flows, especially of labourers from villages looking for work in cities. Because cheap health and education in cities are only provided to people with local *hukou*, the system acts as a brake on migration. Young workers eager for relatively well-paid city jobs are undeterred, but they usually leave children and older relatives behind. The government is happy with this: it fears the creation of potentially restive slums.

Local authorities do worry a bit, however, about the impact this has on people like Ms Yuan. They are seen as vital contributors to the more innovative, services-driven economy the country wants to create. But the system is causing big problems for such people. Zhang Wenxia, from the central province of Hunan, works at a logistics company in Beijing. She says she is thinking of moving back to her home town because that would boost her child's chances of getting into a good university (the entrance exam must be taken in the province of one's *hukou*). Gu Zi, from Jiangxi province in the south, wants to continue running her recording studio in the capital. But she says she may send her daughter abroad to finish schooling because of the complexities of *hukou* requirements for university admission. To make it



Don't bother checking

Only the best

Points system for *hukou* in Guangzhou
Total needed=60, March 2014

| Category | Criteria | Points |
|-----------------|---|--------|
| Education* | Bachelor's degree | 60 |
| | Professional diploma | 40 |
| | High-school graduate | 20 |
| Skill level | Mid-level professional | 60 |
| | High-skilled worker | 40 |
| | Skilled worker | 20 |
| Employment† | Specialist technical or equivalent | 20 |
| Community work‡ | Per blood donation within the past five years | 2 |
| | Per volunteer service of at least 50 hours in the past five years | 2 |
| Tax payments | Payment of a total of more than 100,000 yuan (\$15,685) in personal income tax in the preceding three years | 20 |

* Points allocated according to highest degree attained

†Equivalent types are specified in a list published by the city government ‡A maximum of two points per year; not to exceed ten points in total

Sources: Guangzhou municipal government; *The Economist*



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Syria, Russia and the West

A game-changer in Latakia?

CAIRO AND MOSCOW

Russia's intervention on the side of Bashar al-Assad just might increase the chances for peace—but only if Vladimir Putin gets tougher with his ally

THREE have been many cruel twists to Syria's civil war. Yet even as it has evolved—from peaceful uprising into desperate armed revolt, then to sectarian bloodbath and more lately into a petri-dish for jihadists and a punchbag for foreign actors—there have been no decisive moments. For years the conflict has been locked in a grisly chess-game of sieges and stalemates, forcing out ever more refugees as a cast of combatants, none able to defeat their rivals, ravages the land.

Now President Vladimir Putin of Russia has slapped a powerful new piece on the board, deploying a strike force of up to 2,000 men backed by aircraft, armour and intelligence kit. The sudden move mightily strengthens Mr Putin's ally, Syria's brutal but increasingly beleaguered regime. But just how Russia intends to use its force remains unclear. Russian power could simply heighten and further complicate the fighting. Or it could provide a decisive tilt, militarily and perhaps diplomatically. It depends on how Mr Putin plays his game.

The government of President Bashar al-Assad represents just one side in a war that is multifaceted, with the country broken into segments held by Islamic State (is), Syrian Kurds, and an assortment of mostly Islamist anti-regime militias. Yet although Mr Assad controls less than a quarter of Syria's territory, this still contains the bulk of its remaining people. Despite generous aid from Iran and Russia, his regime has re-

cently been losing ground. The Syrian army, which once fielded some 250,000 troops, has dwindled to fewer than 125,000 men backed up by local militias and Shia "volunteers", including soldiers from Hezbollah, supplied by Iran. Its superior firepower and monopoly of the air—excepting the American-led coalition striking is—has delayed but not deterred advances by the rebels, who may be weak and fissiparous but draw from the deep well of hatred felt by many Syrians, and especially the 70%



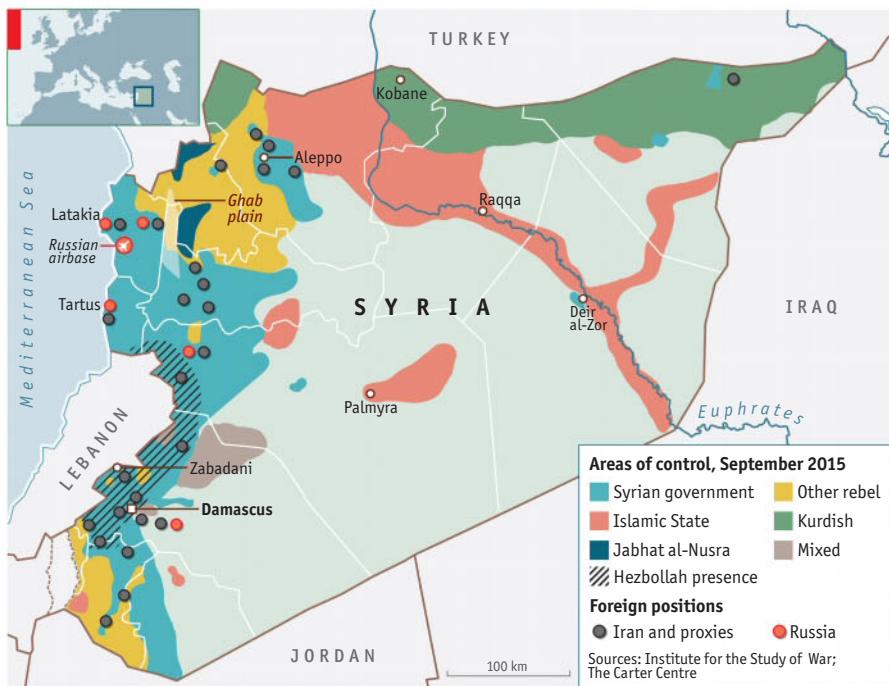
Best friends, but probably not forever

who are Sunni Muslim, for a regime dominated by Mr Assad's Alawite sect.

Russia's help comes in the nick of time. Mr Assad's air force has been effective for bombing rebel-held areas, and so generating refugees. But its shrinking number of ageing aircraft are unable to provide close support in tactical combat. Enter Russia. The force now deployed to a coastal airbase in Syria's Alawite heartland includes two dozen heavily armoured ground-attack jets as well as helicopters, possibly including Russia's newest aerial battleship, the highly capable and lethal Ka-52. Russia has also supplied intelligence drones and signals equipment. Reports suggest that further deployments are likely soon, with satellite imagery showing expansion work at several Syrian bases along the coast, as well as at the port of Tartus, where Russia maintains a naval supply depot.

Although Russian pilots are not known to have flown any combat missions yet, this configuration suggests they may soon do so. Such added clout could give Mr Assad a significant advantage on several battlefronts. On the Ghab plain in the west rebel forces have lately pushed south, threatening to cut Syria's coast from the interior. In the desert to the east, is this spring captured government-held oil- and gas-fields as well as the ancient city of Palmyra, and is besieging a regime airbase outside the city of Deir al-Zor. But the jihadists' supply lines are stretched and vulnerable to attack from the air. Added air power could also prove useful for strengthening the narrow corridor linking government-held parts of Aleppo, Syria's second-largest city, with the south.

"The entry of Russia could be a military game-changer on some fronts," says Emile Hokayem of the iiss. "But will it allow Assad to reassert full control? No." Rather than a bid to end the war to the Syrian ➤



► leader's advantage, Russia's move may be aimed at preventing his regime's collapse. At the same time, say diplomats and analysts, Mr Putin wants to repair ties with the West, and to build leverage over vexed issues such as Ukraine, by posing as a potential partner in the fight against is.

For Russian domestic opinion, Mr Putin has framed the deployment as a contribution to the war on Islamist terrorism, as a bolstering of Syria's legitimate government, support for Syria's Orthodox Christians and as a corrective to "childish" American policies that Russian media depict as having both fostered terrorism and failed to fight it. Russia has a particular concern, too, with what its intelligence service, the FSB, claims are 1,700 Russian jihadists, mostly Muslims from the Caucasus, who have joined Syrian rebel factions. Others say the number is almost twice that.

The Russian move has certainly left America and its allies looking flat-footed. Mr Putin's boldness contrasts sharply with the timidity of Western efforts in Syria, which have wavered between lukewarm support for anti-Assad fighters and tacit collaboration with his regime in fighting is. A recent series of embarrassments for the Obama administration, including the capture or defection of Syrian fighters vetted and trained in a costly Pentagon programme, as well as barbed comments from the White House attempting to disown its own policy, have not improved Western morale. And in any case the members of the American-led coalition, which has spent a year bashing is in Syria from the air without much effect, remain divided by divergent aims and priorities.

Frustration with Syria's chronically divided opposition and with Syria in gen-

eral, as well as alarm in Europe at the surge in refugees pounding at its gates, have produced an increased willingness among Western diplomats to soften their hostility to Mr Assad's regime. John Kerry, America's secretary of state, said recently that, in a negotiated solution, the Syrian leader's departure need not necessarily take place "on day one or month one or whatever". America had previously firmly backed the demand by allies such as Turkey and Saudi Arabia that Mr Assad's exit was a precondition for a deal.

Russia's embrace of the Syrian leader has accelerated this shift. Senior European diplomats, including Germany's foreign minister, Frank-Walter Steinmeier, welcome Russian intervention. Israel, which has kept a wary eye on neighbouring Syria, and in particular on Iran's growing influence, is keener to co-operate with Mr Putin than to oppose him. Its prime minister, Benjamin Netanyahu, paid a friendly visit to Moscow, accompanied by top military brass, to seal protocols to ensure that there will be no unintended clashes between Israeli and Soviet forces.

Even Turkey's president, Recep Tayyip Erdogan, saw no problem flying to Moscow on September 23rd for the inauguration of a new mosque, claimed as the largest in Europe. The Pentagon, for its part, plans to make way for the new intruders in Syria's crowded air space.

But the apparent pro-Moscow tilt has left many of Syria's rebel factions seething. As a greater threat to Mr Assad than is, they are more likely than the so-called caliphate to bear the brunt of an emboldened Syrian army's attacks. At the same time, however, there are signs of a shift to more pragmatic politics among rebel groups. After months

of complex negotiations involving Iran and one rebel coalition, agreement has been reached for a ceasefire and population swap in two besieged zones. In exchange for withdrawing rebel fighters from the town of Zabadani near the Lebanese border, and a limited cessation of government air attacks, the rebels will allow up to 10,000 villagers to leave a Shia enclave in the north.

Some 29 rebel factions also signed an agreement in Istanbul earlier this month endorsing a UN plan to set up four parallel working groups to seek practical solutions to Syria's myriad woes. The plan represents a climb-down from previous, fruitless efforts to start peace negotiations. But the greater willingness of rebels to talk, combined with the painful ironing out of complex lines of engagement by deals such as the Zabadani ceasefire, suggests some room for movement: not yet towards an overall peace accord, but at least towards partial disengagement.

Mr Putin could play a positive role in this, if he chooses to use his power to nudge Mr Assad towards talks rather than goad him into battle. Western diplomats could help, too. Rather than scuttling aside to make way for Russia, they might instead use Mr Putin's deeper and more dangerous exposure to extract concessions, such as an end to Mr Assad's deadly barrel-bombing of civilians. But if Russia decides it can impose a military solution, it may be in for trouble. "This conflict has the fuel to last a few more years," warns Mr Hokayem. ■

Syrian refugees

Time to go

BODRUM AND TRIPOLI

Who is leaving for Europe and why

AFTER government forces burned their family to death, Muhammad and Mukhtar, two brothers in their early twenties, fled Syria. Since then they have got by doing odd building jobs in the Lebanese port of Tripoli, while so far unsuccessfully applying for resettlement. Now, two years later, they are hoping to join the exodus to Europe if they can raise enough money to pay smugglers for a passage. "There is nothing for us here," says Mukhtar.

Over the past few summers—when the paths are clear and the seas calm—Syria has churned out people. But this year has seen the greatest outflow yet. The latest, as yet unpublished, UN figures, obtained by this newspaper, show that Syria's population has shrunk to just 16.6m, down from a pre-war level of around 22m. With 4m UN-registered refugees abroad, at least 1m

► more unregistered and 7m internally displaced people, more than half the country's population has been forced to move. UN officials think the number could be significantly higher than that, since estimates of the pre-war population vary widely. Up to 250,000 people have died.

The Middle East has witnessed mass movement before: Palestinians, Jews, Armenians, Kurds, Iraqis, to name but a few. Yet while many of them settled in the region—often in Syria, which only a few years ago offered refuge to over 1m Iraqis and 560,000 Palestinians—more are now choosing to go farther afield. So common has the flight by sea towards Europe become that airlines have special announcements. "Please leave the life-jackets," pleads a steward through the tannoy on the flight from Lebanon's capital, Beirut, to Adana in Turkey, the country from which most of the boat-people leave.

Those leaving cite several motives for moving now. Syria's war is intensifying: the number of armed incidents rose from 4,000 in January to 6,000 in August, according to a data agency with scores of monitors on the ground. Some are fleeing Islamic State (IS) though many more are leaving from rebel-held areas that are being attacked by the regime.

Goodbye Damascus

Syrians are also leaving relatively peaceful regime-held areas in larger numbers, too. "Every Syrian wants to leave, more than ever," says Omar, a student who recently arrived in the Netherlands from a safe part of Damascus. Many come from the regime's outposts, such as western Aleppo, which, relying as it does on air cover to maintain supplies, feels increasingly fragile. Services have deteriorated even in the richest parts of the capital. A middle-income country has collapsed into one in which over 80% of people are "in need", according to the UN.

Poor and often falling living conditions also explain why Syrians are fleeing the neighbouring countries where, at first, they found safety. Many who thought they would soon return to Syria have now despaired. "The worsening conditions in Lebanon and Jordan and restrictions on the Syrians are contributing to a sense of hopelessness," says Ariane Rummery of the UNHCR. Some refugees say the host countries are actively encouraging them to leave, frustrated with what they see as a burden on their already stretched resources. In Lebanon refugees now account for well over a quarter of the population.

None of the four main countries hosting Syria's registered refugees—Turkey, Lebanon, Jordan and Iraq—recognises them as such. This means that they are unable to work legally. In Jordan they are encouraged to go to a camp, though most live on the edge of cities. In Lebanon official camps

are banned, so Syrians live in makeshift shacks fashioned from wood beams covered with sacking. By their own accounts, hostility towards them is rising.

The UN has cut assistance to Syrians, since to date it has received only 37% of the \$4.55 billion it says it needs this year. This month, for example, it dropped thousands of Syrians in Jordan from its food assistance programme. Food aid in Lebanon fell by half in July, to just \$13.50 per head per month. Money promised this week by EU leaders should help a lot.

Europe is by far the most favoured destination for those who leave. Lawrence Mala Ali, an engineer who recently arrived in Norway, laughs when asked why he didn't go to an Arab country: "Which one? The Arab Gulf won't accept us. Jordan offers us Zaatari camp. Lebanon is the capital of humiliation," he says. "I chose Europe because it's the only possible place that makes me feel that I am a man again."

There are no good statistics on the economic background of the refugees. But many, like Mr Ali and the brothers in Tripoli, are middle-class by Syrian standards—after all, they have to find the \$2,500 or so the smugglers demand. According to Swedish figures, 40% of Syrians arriving there have upper-secondary education or higher, compared with, say, 20% of Afghans. Many who are leaving had flats and jobs. Even were they safe, after four years of war many Syrians want a better standard of living, and education for themselves or their children.

The factors pulling people towards Europe have become more powerful, too. When Angela Merkel said last month that she was setting aside the rule that those seeking safety must apply for asylum in the first EU country they reach, it was interpreted as an open door. TV images of warm welcomes added to the impression. "Look how the Germans met Syrians arriving on trains! And look how the Austrians

brought food!" says Mukhtar.

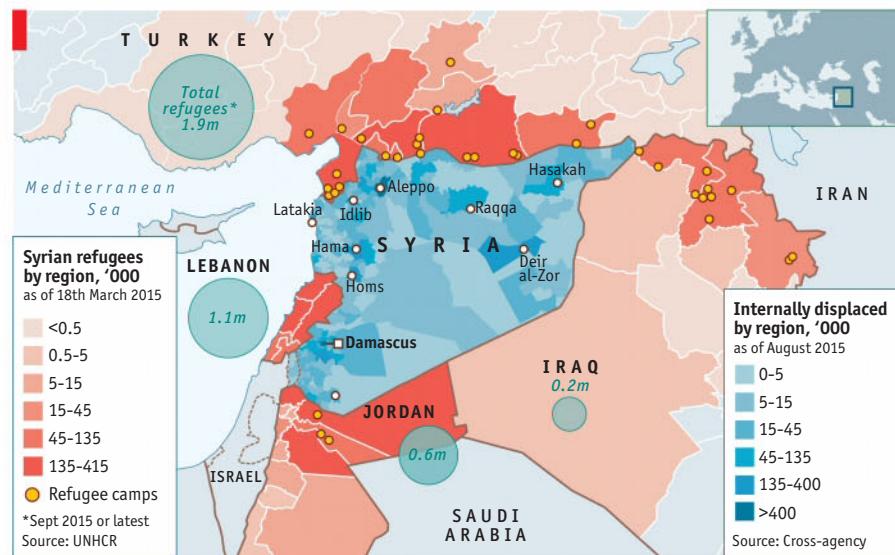
The flow is likely to lessen when winter comes, but most Syrians reckon the exodus will resume in the spring. Syrians in Europe pass news back to friends and relatives elsewhere via social media. Since many men set off with the intention of bringing their families later on, more people are likely to follow. UNHCR statistics say 80% of migrants arriving in Europe are male. One problem for the Syrians is a growing number of other nationalities who are pretending to be Syrian, sometimes armed with fake passports, and sometimes with none, to claim asylum.

Just the start of it

So far in 2015 the UN says that half a million people have crossed the Mediterranean, 40% of whom were Syrian. Despite those figures, the vast majority of Syrians are still in their country or its neighbours. The most vulnerable and poorest are among them. In a plot of farmland covered with tents in the Bekaa valley, where sewage flows in open ditches, Riad, 36, watches satellite news reports of refugees arriving in Germany with envy. "We are here, struggling to feed our families," he says.

As Iraq has found, rebuilding a country is hard when the educated have left. Their departure is making sectarian divisions increasingly pronounced, too. Most people in areas held by the regime, headed by its Alawite president, are Sunnis, but the proportion is declining. Mostly-Sunni Idlib province, for instance, has been taken by the Sunni opposition.

Syria's many rulers are seeking to hold onto their populations. The Assad regime wants men who can fight. Syria's Kurds want refugees to return so their lands can't be "Arabised". IS is publishing videos showing how life is better in the caliphate than in Europe. But if fighting intensifies in Aleppo or Damascus, many more will leave. The worst could be yet to come. ■



Somalia

One man, no vote

NAIROBI

It is proving impossible to hold a fully democratic election

HOW do you hold an election without registering voters? That is the question confronting Somali politicians—as well as hordes of diplomats, NGOs and other international hangers-on—trying to create a functional government in Somalia, a country that has been without a functioning central state apparatus since the fall of its military regime back in 1991.

Somalia has been attempting to build a government since 2007, when an African Union (AU) peacekeeping force occupied the country, after Ethiopia had invaded it a year earlier. A provisional constitution was drawn up in 2012, and Hassan Sheikh Mohamud, a former academic and aid worker, was elected president of a transitional government. The process is supposed to culminate in an election next year to create a Somali government with support across the whole country.

To the surprise of no one involved, Mr Hassan announced in July that a one-man, one-vote election next year will not be possible after all. He cited the continuing fight with al-Shabab, a jihadist group linked to al-Qaeda, and the need to maintain national unity. That the government is incapable of conducting a vote in most of the country was obviously also a factor.

Now that a traditional election has been ruled out, the most likely compromise, says Matt Bryden, a Nairobi-based analyst who was the co-ordinator of the UN's Somalia and Eritrea Monitoring Group until 2012, will follow the “4.5” formula. Elders from the four main Somali clans plus various minority clans will act as representative electors.

That was roughly how Somalia's parliament was appointed in 2012: a group of 135 clan elders chose 275 MPs, who in turn elected Mr Hassan. A possible tweak, says Mr Bryden, would be to involve representatives of Somalia's ten “federal member states”, which were also created under the constitution of 2012. The idea would be to give anybody with any power a stake in the government's success.

So far Mr Hassan is dividing Somalis more than uniting them. In August almost half of the MPs attempted (in vain) to impeach him, accusing him of corruption and incompetence. Relations between the central government and the states are just as fraught. Mr Hassan did turn up to the inauguration of the president of Jubaland, the southern strip of the country, on September 12th, to the surprise of some. But state

Race and rugby

Green and blacks

Should the national team reflect the colours of the country or its players?

WHEN Nelson Mandela strode onto a field in 1995—a year after the birth of South Africa's democracy—images of him wearing the green and gold of the national rugby team became a stirring symbol of his commitment to racial unity. His celebration of the World Cup victory of the Springboks that year before a crowd of mostly white Afrikaners prompted chants of “Nelson, Nelson!”

Two decades on, little racial unity accompanies the Springboks' appearance at the 8th Rugby World Cup in England. Why, critics ask, are only nine players in the total squad of 31 non-white, when only 10% of the population is white? Worse still, in a country that remains obsessed by minute gradations of race, why are only four of those nine African, rather than of mixed race? Xe-

**Not representative**

leaders cannot be forced into supporting the central government. The autonomous region of Somaliland in the north, which is peaceful and in practice an independent country, will ignore the entire process.

While negotiations go on, the 22,000 troops deployed under the aegis of the AU have been fighting a costly war with al-Shabab. The militants have now been kicked out of almost all urban areas, but they maintain support in large parts of the countryside and are still capable of launching brutal attacks. At night “they roam half of Mogadishu”, says Cedric Barnes of International Crisis Group, a Brussels-based NGO. On September 1st al-Shabab fighters briefly overran a Ugandan AU base, killing dozens of soldiers and taking more captive;

nophobes splutter too: of those four black Africans, the one who plays most often originally came from Zimbabwe.

Embarrassed, the government has stood behind the team and its conservative white coach, Heyneke Meyer. His response, under fire, has been to swear undying loyalty to the country. None of that has stopped the invective. One of the country's senior black newspaper editors has sworn to support only the Springboks' opponents during the tournament: a twist on an apartheid-era tradition among many mixed-race rugby fans, who to this day still cheer for New Zealand's multiracial All Blacks.

There is some injustice in the criticism. Not many black children play rugby in South Africa. Even in the pockets where it is popular, precious few black children get anything like the facilities and coaching available at white schools. Oregan Hoskins, the president of the South African Rugby Union, reckons that in the country's second most populous province, KwaZulu-Natal, only 3% of African schoolboys play the game. Nationally, Hoskins points out, “Only about 10% of schoolboys ever see a rugby ball at primary school...it is from that tiny subset of potential players that Springboks emerge.”

So fierce is the pressure on rugby to promote more black players that the sport's governors hope fully half the Springboks will be black by 2019. Given the tiny pool of young black players learning the game, critics say that aim can be achieved only if the team lowers its ambitions. Until its startling defeat by Japan in its first game of the tournament, South Africa ranked third in the world.

the exact number of casualties is disputed. That attack was just the worst of several to have occurred in recent months. This week a car bomb at the presidential palace killed at least four people.

Western diplomats, arguing that political instability helps fuel al-Shabab's violence, are openly frustrated by the slow progress of negotiations. On September 8th America opened a new embassy for Somalia—in Nairobi, neighbouring Kenya's capital. But there are few levers to force agreement. Pulling back the AU forces and cutting the UN spending that helps sustain them are the only chips the peace-seeking diplomats have. With al-Shabab still strong, few would want to do that. Instead, the discussion drags on. ■

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Rule of law in Ukraine

Mr Saakashvili goes to Odessa

ODESSA AND KIEV

A Georgian reformer tackles Ukraine's real public enemy number one: corruption

IN THE spring of 2014, as the war in eastern Ukraine's Donbas region was breaking out, deadly clashes wracked the elegant port city of Odessa. On May 2nd pro-Russian separatists shot at pro-Ukrainian demonstrators from behind police lines. The riot ended in a fire that killed 46 separatists. The city has been largely quiet ever since.

Yet over the past few months Odessa, now governed by Mikheil Saakashvili, a former president of Georgia, has become a battleground in a less visible sort of war. This pits the corrupt post-Soviet system that has ruled Ukraine for nearly a quarter of a century against the law-based state that was promised by the Maidan revolution in Kiev nearly two years ago.

It was Ukrainians' aspirations for a modern Westernised country that spurred Russia's aggression against them in the first place. But while the war has turned Ukraine against Russia, cost 8,000 lives and battered Ukraine's economy, it has not created a functional state. All too often, the conflict has been used by the government as an excuse for its failure to change.

Only 3% of Ukrainians are satisfied with the pace of reforms. None of the officials who pillaged the country under its prior government and were responsible for the deaths of demonstrators in Kiev has been prosecuted. Despite a few fresh faces in government, the old elite continues to

dominate, showing little interest in investigating the scams they once ran—and in many cases still do. A new anti-corruption bureau set up a year ago has been stymied. "The government is killing the spirit of Maidan," says Yulia Mostovaya, the editor of *Zerkalo Nedeli*, an independent weekly.

It is this spirit that Mr Saakashvili is now trying to revive in Odessa. Lacking a responsible Ukrainian political elite, the president, Petro Poroshenko, has recruited foreigners into his administration. An ideological corruption fighter, Mr Saakashvili is trying to replicate in Odessa the reforms he successfully implemented in his native Georgia between 2004 and 2013.

Fighting corruption is a critical struggle throughout the post-Soviet region, and Mr Saakashvili's administration has attracted a clutch of Georgian, Ukrainian and even

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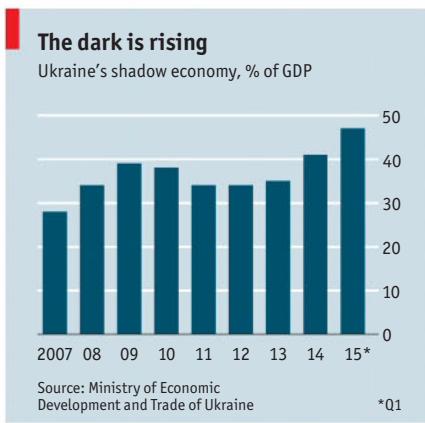
Russian reformers. They include Maria Gaidar, daughter of Yegor Gaidar, the liberal who served as Russia's first post-Soviet prime minister. She believes she can do more for Russia's future in Odessa than she could in Moscow, where she helped lead the anti-Putin protests in 2011. "Putinism is based on the idea that there can be no alternative to his model of governance," says Ms Gaidar. "What we are trying to do here is to create this alternative."

The ceasefire in eastern Ukraine has shifted the focus from war to reform. For the first time in 18 months, nobody is dying in Donbas. Russian state television channels, whose programming is a good predictor of Kremlin intentions, have stopped showing images of combat and turned to upbeat footage of separatist leaders visiting kindergartens. "The situation in the east of Ukraine has reached an impasse," says Dmitry Trenin, head of the Carnegie Moscow Centre, a think-tank. Rather than escalating the conflict and risking further Western sanctions, Mr Putin is counting on political turmoil to destabilise Ukraine.

The biggest threat to Ukraine is now not a Russian invasion, but corruption so pervasive that it long ago ceased to be a disease of the post-Soviet system and became the system itself. Police and prosecutors are in effect commercial structures used to gain wealth and power. And while in Mr Putin's Russia security and law-enforcement agencies are controlled by one clan, in Ukraine the privatised state is divided between several oligarchic groups, providing a measure of pluralism (if not democracy). The attempt by Viktor Yanukovych, the former president, to monopolise corruption was one reason for his overthrow.

Although Maidan started as a popular movement against corruption, it was supported by the oligarchs, who put their own ►





▶ politicians on the stage. Getting rid of Mr Yanukovych did not end corruption; it merely decentralised it. "Instead of rebuilding the system, [the new government] is redistributing assets and spheres of influence," says Victoria Voysitska, one of the young members of parliament swept in by the revolution.

Rule by bribe

Russian aggression empowered the oligarchs further. Unable to rely on its corrupt, ill-equipped police and army, the new government appointed several oligarchs as governors of the country's most vulnerable regions. Ihor Kolomoisky, a billionaire with interests in banking, oil, television and an airline, took charge of Dnepropetrovsk. He financed a private army, topped up police salaries and put a bounty on every separatist's head.

Having stemmed the Russian-backed secessionists, the oligarchs felt entitled to continue profiting from state firms. Aivaras Abromavicius, the Lithuanian-born minister for economy and trade, says there is not a single state enterprise in Ukraine that has not been usurped by one clan or another.

Mr Kolomoisky soon tried to expand his influence to Odessa, installing a business associate as its acting governor. But after a stand-off over control of state energy firms, Mr Poroshenko fired Mr Kolomoisky as governor of Dnepropetrovsk and appointed Mr Saakashvili as governor of Odessa. Mr Poroshenko saw it as a way of consolidating power; Mr Saakashvili sees the president as cover for reform.

Odessa's new governor faces much resistance. When he tried to clean up the customs department, the national government lowered tariffs at Ukraine's other ports and sucked away 80% of the Odessa port's business—to ensure a cut of the bribes would continue to flow up the chain of command. Exasperated by the sabotage, Mr Saakashvili went on national television to accuse the prime minister, Arseniy Yatsenyuk, of being in the pocket of the oligarchs. He also attacked the head of the civil aviation authority for restricting competition in favour of Mr Kolomoisky's

airline. The government was forced to drop the differential tariffs, sack the head of the aviation authority and put him under house arrest.

Mr Kolomoisky vowed revenge. "When a dog without a muzzle bites someone, we need to punish both the dog and, more importantly, its owner," he told Ukrainian journalists. The oligarchs, says Ms Mostovaya, see Mr Poroshenko not as an independent arbiter but as one of their own who is trying to squeeze out the rest. Observers say the oligarchs hope that regional elections, due on October 25th, will allow them to establish control in Ukraine's east and force early parliamentary elections.

Mr Saakashvili argues that the only way to dislodge the oligarchs is to enlist the public. Whereas Georgia had a pro-reform economic elite, "In Ukraine, there is no such elite, but there is a strong civil society," he says. "Ordinary people take much greater interest in politics here than they did in Georgia."

To rally support, Mr Saakashvili has staged a series of publicity stunts. With the cameras rolling, he turned up at seaside mansions to smash walls and free up beaches illegally commandeered by tycoons. "If I tried to do it by sitting in my office or appealing to the courts, it would just never get done," says Mr Saakashvili. He has promised a badly needed road from Odessa to the Romanian border and a Georgian-style one-stop office to cut through red tape for official documents.

Odessa's young reformers look out of place in the regional administration's concrete Soviet-era building. Mr Saakashvili's 25-year-old deputy, Yulia Marushevska, is familiar to many Westerners as the face of Maidan: in February 2014 she recorded an

English-language video from the demonstrations entitled "I am a Ukrainian", and drew 8m views on YouTube. After a few months of working in Odessa's government, she says: "I feel like sitting down and rewriting this country from scratch."

But the key, as Mr Saakashvili knows from his experience in Georgia, is control over law-enforcement agencies. One of his biggest victories so far is the appointment of a Georgian former prosecutor as the head of Odessa's prosecutor's office.

On the brink of chaos

With winter approaching and electricity shortages looming, time is short. "We have two to three months at most to show some results," says Mr Saakashvili. Poorly remunerated public services are on the brink of collapse. The population is growing poorer—and more radical. Meanwhile, Ukraine is brimming with weapons and thousands of militiamen, angry with a corrupt and listless government they feel has hijacked the revolution.

In Odessa a pro-Ukrainian volunteer force called "Self-Defence" boasts 300 men (many of them armed) and 400 more in reserve. Vitaly Kozhukar, one of its leaders, says he and his men are disappointed that Mr Saakashvili does not rely on them. "We expected more radical steps from him," says Mr Kozhukar. "We will give him a couple of months before we start asking questions. And if he tells us that the problem is in Kiev, we will go to Kiev."

Given the weakness of law enforcement, it might not take much for a militia battalion to move into Kiev and stage a coup. Many of the paramilitary groups are financed by oligarchs. Were they to overthrow the government, the country could collapse into regional factions—a prospect relished by Russia.

To tame the militias, the state must grow strong enough to establish a monopoly on violence. Yet law enforcement agencies are so discredited that reformers have turned to creating parallel structures. New "patrol police" departments have been set up in cities including Kiev and Odessa. Recruits are put through a vigorous selection process to weed out bad apples, trained by police instructors from California, and paid triple the salaries of the old departments to avoid temptation.

One day last month, Eka Zguladze, a former Georgian official serving as Ukraine's deputy interior minister, stood at the top of the steps where Sergei Eisenstein filmed the famous baby-carriage scene in his masterpiece, "Battleship Potemkin". Ms Zguladze was swearing in the first cadre of Odessa's newly established patrol police. "We must show that our dream of the rule of law is not a Utopia. The battle taking place is not about east and west, north and south," she told them. "It is a battle for law against lawlessness." ■



The beach belongs to the people

Greece's elections

Synchronised somersault

ATHENS

The prime minister pivots away from leftism, and his party follows

ALEXIS TSIPRAS, who won his second national election victory on September 20th by a poll-defyingly wide margin, is only 41 years old—one of the euro zone's youngest prime ministers. Yet he has been a professional left-wing politician for two decades. While his Syriza party languished in opposition, Mr Tsipras enjoyed his role as Greece's anti-austerity firebrand, denouncing the reforms of socialist and centre-right governments and insisting that only a state-led economy could create jobs and restore generous benefits. But as he starts his second term in office, he must put his ideological convictions on hold.

Syriza's win gave Mr Tsipras a fresh mandate to keep Greece in the euro zone. To do so, the new government must immediately increase taxes, cut pensions and accelerate the privatisation of state-owned companies—reforms Mr Tsipras defiantly opposed during his first term. That was before the threat of an involuntary “Grexit” made him accept a new €86 billion (\$95 billion) bail-out by Greece's creditors—and their conditions. Like earlier Greek leaders in trouble, Mr Tsipras has executed an ideological *kolotoumba*, or somersault. The question now is whether the rest of Syriza can flip over as well.

On election night, Mr Tsipras sounded more pragmatic than after his first win in January. He told a flag-waving crowd there were difficulties ahead, but that with “persistence” (rather than, say, “resistance”) they could be overcome. His revamped cabinet includes Euclid Tsakalotos, the Oxford-educated economist who negotiated the bail-out, as finance minister. The deputy finance minister, George Chouliarakis, led Greece's number-crunching team in the negotiations.

Mr Tsakalotos, a lifelong Marxist, suffered doubts before agreeing to take the job. But there is wriggle room in the bail-out deal to soften the impact of rapid market reforms. Meanwhile, Mr Tsakalotos leads the Group of 53, now the farthest-left internal group in Syriza since the extremist Left Platform defected and triggered the election. The Group of 53 will do its best to salvage some of Mr Tsipras's lost idealism.

If Syriza has grown less fond of extreme left-wing rhetoric, so have Greek voters. Popular Unity, the party founded by Left Platform after it defected, failed to win enough votes to enter parliament. Yanis Varoufakis, the outspoken former finance minister who broke with Mr Tsipras over



Still in charge

the new bail-out, decided not to run.

Yet the prime minister and his team are far from re-inventing themselves as social democrats. Rather than forming a coalition with Greece's moderate pro-European left, the small Pasok (PanHellenic Socialist Movement) and To Potami (The River) parties, Mr Tsipras turned to the coalition partner from his first term: the Independent Greeks, a right-wing nationalist party that touts conspiracy theories and wants to deny Syrian refugees even temporary asylum in Greece. Martin Schulz, president of the European Parliament, called it “bizarre” that Mr Tsipras should keep in with “this strange far-right party”.

The new cabinet also retains some of Syriza's fiercest critics of capitalism. Panos Skourletis kept his job as minister for energy and environment, signalling that the new Syriza-led government has no plans at present to make concessions to the private sector. Mr Skourletis cited environmental grounds to revoke permits granted to a Canadian gold-mining company for a €1 billion investment, the largest in Greece for two decades—even though they had been approved by Greece's highest legal body. He has refused to reconsider despite protests by hundreds of mine workers desperate to keep their jobs.

Greece's creditors are waiting to see whether Mr Tsipras will act on his promises to crack down on corruption and high-level tax evasion by the old political elite, which has replaced Germany and the International Monetary Fund as the target of his rhetoric. None of Greece's oligarchs has so far been hauled before the public prosecutor. Syriza officials claim the previous government was so overwhelmed by the struggle to stay in the euro that there was no time to address other big issues.

Mr Tsipras's turn away from leftist orthodoxy has manifested itself in his private life as well. He spent the summer stay-

ing at a Greek shipowner's villa by the sea, commuting by helicopter to his office. This month he enrolled his seven-year-old son at one of Greece's most expensive private schools. Some Syriza officials voiced disapproval. But the size of Mr Tsipras's election win—Syriza finished less than one percentage point down from January—suggests that voters were not concerned. ■

Catalans ponder independence

Breaking up is hard to do

BARCELONA

Elections in Catalonia may launch a secession battle Europe is not ready for

BENIGNO ROMERO, a Catalan taxi driver, reached coyly into his pocket and produced a key-ring bearing the horizontal gold-and-red striped flag of Spain. “I respect everyone else's opinion. But if we get independence our pensions will go and this will be like Venezuela,” he said. Mr Romero's worries reflect an increasingly bitter debate in this wealthy corner of north-east Spain as it prepares for elections that could bring a unilateral declaration of independence within 18 months.

Catalonia's president, Artur Mas, has proclaimed regional elections on September 27th to be a plebiscite on independence. His centre-right Catalan Democratic Convergence party has teamed up with Catalan Republican Left and grass-roots separatists to present a joint list of candidates. If these, together with radicals from the Popular Unity Candidacy, win a majority of seats, they threaten to declare independence in spring 2017, setting up a dramatic confrontation for which neither Spain nor the European Union is prepared. ►

► While negotiations might prevent that happening, separatists seem unlikely to settle for anything less than a proper referendum—which the government in Madrid, led by prime minister Mariano Rajoy's Popular Party, has so far refused.

Polls show that a narrow majority of Catalans prefer to remain Spanish. But they also suggest highly-motivated separatists are more likely to vote and may give Mr Mas the thin parliamentary majority he considers sufficient to embark on this defiant course. That is why Mr Romero is worried about his pension. On September 21st the governor of the Bank of Spain, Luis María Linde, said he saw little chance of Catalonia breaking away. But he gave a warning that without the backing of the European Central Bank, capital controls on Catalan bank deposits (akin to the limits imposed on Greece this summer) could follow. Mr Mas responded by warning that Spain too would suffer if there was no deal, as Catalonia, which accounts for a fifth of Spain's economy, might refuse to pay its share of the national debt.

This unseemly stand-off has investors perplexed. Catalonia's own regional debt yields are rising, though overall foreign investment is growing and Moody's, a ratings agency, does not see independence as likely in the next three to five years.

Yet the 1m separatists who took peacefully to the streets of Barcelona on September 11th to mark Catalonia's "national" day were a reminder of just how deep passions run. Lluis Llach, a famous Catalan-language singer whose protest anthems were heard across Spain in the 1970s, heads Mr Mas's "Together for Yes" list in the northern province of Girona. A constitutional court ruling that struck out parts of a self-government statute in 2010 shattered his dream that a constitution drawn up after the death of dictator Francisco Franco would allow Spain to become "a nation of nations", including not just Catalonia, but also the Basque Country and Galicia. It also pushed Mr Llach, and many other Catalans, towards active separatism.

Mr Rajoy believes Mr Mas will lose the vote. In case he is wrong, however, the government is beefing up the constitutional court's powers to prevent a new regional

government creating some of the institutions needed by an independent Catalonia. He also has an eye on general elections, due in December; parties seen as soft on Catalan independence may suffer in the rest of the country.

Mr Mas's separatists can only be defeated on September 27th with the aid of what the government calls the "radical leftists" of Podemos. These have allied with others who see the pro-business Mr Mas as an

austerity hawk and want working-class Catalans who do not normally vote—many from families who migrated from elsewhere in Spain—to turn out to evict him. Opinion polls are too close for accurate predictions about the result. The only certainty is that a victory for Mr Mas will create more uncertainty. That will not help either Spain or Catalonia as they try to maintain the momentum of economic recovery after a long recession. ■

Auto-free day

The cars that ate Paris

PARIS

A surprisingly polluted city tries to survive for 24 hours without its Peugeots

THE French capital gave birth to the flâneur, that casual wanderer of the modern town whose "immense joy" is to stroll the streets "amid the ebb and flow of movement", in the words of Baudelaire. Paris remains a delight on foot, with its narrow cobbled alleys and pedestrian bridges across the Seine. But most of the ebb and flow these days comes from traffic roaring along the main boulevards. Now, in an effort to awaken its inhabitants' inner flâneurs, Paris is to hold its first car-free day, on September 27th.

Inspired by similar events elsewhere, notably in Brussels, a group of eco-citizens came up with the idea last year. They petitioned Anne Hidalgo, the capital's Socialist mayor, who in turn had to lobby the (nationally controlled) Paris police. The upshot is not the complete car ban that the group originally sought. The car-free zone will cover only the capital's central neighbourhoods. It will take place on a Sunday. And taxis, buses and residents' cars will still be allowed on the streets, albeit at crawling pace.

Yet the event may well capture the imagination of Parisians, who the mayor hopes will picnic on the cobblestones and reclaim the streets. The unfamiliar sounds of a car-free day will doubtless underscore how much noise and grime a modern city tolerates. Paris does not suffer from Beijing-style levels of smog. But there are constant worries about toxic fine-particle pollution, particularly from France's large number of diesel engines. Background levels of fine particles were 50% above target limits in 2014, and up to three times those thresholds by roadsides, according to Paris's air-quality watchdog. In March, when pollution levels briefly exceeded those in Beijing, the city banned diesel vehicles and half of all cars on alternate days.

The car-free day is not the first step Paris has taken to discourage noxious emissions. The French capital implemented Vélib, the city's bike-sharing

Dirtier than you think

Air pollution, average annual particulate matter Micrograms per m³, latest available



Source: World Health Organisation

service, long before London copied it; there is now a similar scheme for electric cars. One road along the Seine has been partially closed, leaving it free for walkers, cyclists and joggers. There is no toll to enter the city, but the Paris region this month introduced a reduced-rate pass on public transport to encourage suburb-dwellers to take the train. Some angry Parisian car-owners accuse Ms Hidalgo of an obsessive anti-car mania, prompted by the Socialists' need for Green party votes at the town hall.

Paris is particularly keen to show off its eco-credentials right now. In December, it will host the world climate-change conference. The French are working hard to try to secure a binding global deal on curbing carbon emissions. They have 80 diplomats working on the negotiations and the event, and two ministers lobbying for a deal. It may be time for Paris to take more aggressive measures than a single car-free day. The last thing France wants is to have 40,000 people turn up to try to save the planet and find the city of lights obscured by smog.



Charlemagne | Point taken, Mr Orban

Europe's migration hardliners have some reasonable concerns



WAITING patiently inside Vienna's Hauptbahnhof station for the train that will carry her to Munich, Delima Ibrahim, a friendly Syrian who looks younger than her 19 years, describes her family's arduous journey to Europe. One month ago, along with the brother dozing peacefully beside her and an uncle, Ms Ibrahim fled a surge in fighting in northern Syria to reach the Turkish port of Izmir. After sailing to Greece the trio trekked up through the Balkans, only to be bused around from country to country, victims of the beggar-thy-neighbour border policies imposed by several European governments this month after Germany imposed controls on its frontier with Austria. Things are calmer now. Yet Ms Ibrahim will not linger in Germany; having heard about its recent policy reversals she fears a clampdown on refugees is coming. Her final destination is Sweden.

The chaos of the Ibrahims' journey plays neatly into the hands of Viktor Orbán, Hungary's prime minister and Europe's chief pantomime villain. Mr Orbán loves poking the *bien-pensants* of Brussels with his celebration of "illiberal" values and his vows to protect Europe from criminal Muslim hordes. But he also makes points that officials struggle to gainsay.

Hungary, reckons Mr Orbán, is the victim of incompetence and bad decisions at both ends of Europe's main migratory route. If Greece protected its border with Turkey properly and registered arrivals as the law says it must, Hungary and other countries further up the trail would not have to deal with streams of migrants who only want to pass through. If Germany had a consistent approach rather than apparently opening its doors one day and tightening its borders the next, fewer migrants would make the journey in the first place, central Europe would avoid the domino effect of border controls—and Ms Ibrahim and thousands like her would not be bounced around like pinballs.

Mr Orbán is a cynical rabble-rouser who cheerfully flirts with outright racism. And yet, painful as it may be to admit, he has a point. Hungary's border fences, Mr Orbán pleads, are no more than what European Union law demands: the control of external frontiers. And yet Hungary is vilified while Greece merrily nods hundreds of thousands of refugees up to Europe without so much as a by-your-leave. Plenty of European officials quietly concur. Bafflement at Germany's vacillations is hardly confined to

Budapest. And this week none other than Angela Merkel, Germany's chancellor, said she completely agreed with Mr Orbán on the need to secure the EU's external borders.

Yet Brussels, the third pole in this crisis, seems merely to tackle the symptoms, reckons Mr Orbán. He is not alone. This week Hungary, along with the Czech Republic, Slovakia and Romania, rejected an EU plan to redistribute 120,000 asylum-seekers from "front-line" states like Greece and Italy to other member countries over the next two years. At Germany's urging, the scheme was put to a qualified-majority vote, overriding the objections of the four refuseniks. The Hungarians howled. Robert Fico, Slovakia's prime minister, vowed to take the decision to court.

Mr Fico, a values-free populist with his gaze fixed firmly on re-election next year, does not have much more going for him than Mr Orbán. Yet here, too, the sceptics are on to something. When it was first floated by the European Commission in May, the relocation plan looked far-sighted. Today, as thousands of migrants are shunted around central Europe while 5,000 more pour into Greek islands every day, it has started to look irrelevant. Putting it into practice will be nightmarishly, perhaps impossibly, hard. And this week's vote poisoned the political well. Johannes Hahn, the European commissioner for neighbourhood policy, says he fears a new "iron curtain" between Europe's east and west.

Roots and culture

Their motives may be less than honourable, but Mr Orbán and friends are right to urge Europe to dig a little deeper. Greece, for example, urgently needs help processing the migrants overwhelming its islands. The EU needs to know why Syrians are leaving countries like Turkey, Lebanon and Jordan, and to forge better relationships with these governments. In particular, the UN agencies helping refugees in the region are starved of funds. EU leaders meeting in Brussels this week failed to do much, but they did boost spending on the World Food Programme, the UN refugee agency and aid to Syria's neighbours. That decision appears partly to have been inspired by David Cameron, Britain's prime minister, whose grumpy posturing has reduced the audience for his valid argument that refugees in and near Syria, not just in Europe, need help.

This week's meetings do not bode particularly well for the future of Europe's migration policy. But, spurred by the awkward questions of the sceptics, a grand bargain may be in the offing: strengthen the EU's external borders, particularly in Greece, in exchange for smooth functioning of the EU's Schengen passport-free zone and burden-sharing of asylum-seekers already in Europe. A visit by Recep Tayyip Erdogan, Turkey's president, to Brussels on October 5th presents a chance to strike a deal that might keep more refugees in Turkey. Greece will have to accept EU help to process its migrant arrivals. One way or another a bigger role for Frontex, the EU's border-management force, looks inevitable.

But two more challenges loom. One is for Europe to live up to its lofty pronouncements by resettling many more Syrians directly from the Middle East. As one Austrian official ruefully notes, Europe's current policy rewards refugees who are young, strong and mobile enough to reach its shores—precisely those in least need of help. Beyond that lies the biggest task of all: integrating the hundreds of thousands of migrants who have arrived this year from Syria and elsewhere, and who Mr Orbán says will undermine the civilisational roots of Europe. Here, if not elsewhere, Europeans must prove Hungary's prime minister wrong. ■



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The housing market

Through the roof

Britain has one booming market that could do with a crash

AS HOUSE prices rise globally, in Britain they are soaring. In the past 20 years they have increased by more than in any other country in the G7 (see chart 1); by some measures British property is now the most expensive in the world, save in Monaco. It is particularly dear in the southeast, where about one-quarter of the population lives. According to Rightmove, a property website, at today's rate of appreciation the average London property will cost £1m (\$1.5m) by 2020.

The booming market weighs heavily on the rest of the economy. People priced out of the capital take jobs in less productive places or waste time on marathon commutes. Young Britons have piled on mortgage debt—those born in 1981 have one-half more of it than those born in 1961 did at the same age—making them vulnerable to rises in interest rates, which are coming. Some will retire before they pay it off.

Who is to blame? One oft-cited culprit is rich foreign buyers, who are said to see London property as a tax-efficient investment, or even a way to launder ill-gotten gains. Having bought plum properties, they often leave them empty. Transparency International (TI), a pressure group, identified 36,342 London properties held by offshore companies. Polls by YouGov show that the most popular explanation for high prices is “rich people from overseas buying top-end London property.”

The argument does not stand up. For one, the number of vacant houses in England has fallen, from 711,000 in 2004 to 610,000 in 2014. And foreign ownership of houses is rare beyond a tiny corner of the capital. TI says that in Westminster one-tenth of all property is owned by firms in tax havens. But outside the centre things look different; the rate is just 1.3% in posh Islington, for instance, and beyond London it is even lower.

Demand from within Britain exerts a much bigger effect. In the past 20 years the population has grown by 11%, twice the average in the European Union. As in other countries, people are marrying later and divorcing more readily than they did in previous decades, meaning that one in ten Britons now lives alone, boosting the demand for homes.

Despite stagnant incomes, buyers have more bite in the housing market. The Bank of England's base rate of interest has been 0.5% since 2009; in real terms, rates have been below their historical peacetime average since 2004 and in nominal terms they are at their lowest ever. Demand has been stoked by “Help to Buy”, a mortgage-subsidy scheme launched in 2013.

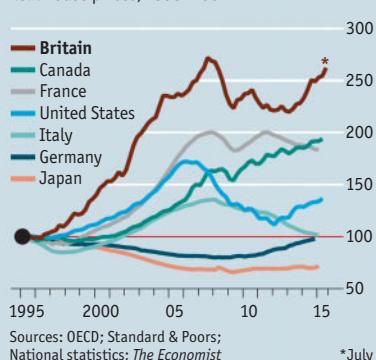
Britons have thus taken on masses of cheap debt. In the 1970s it took the average mortgage-holder eight years to pay off his loan, estimates Neal Hudson of Savills, an estate agent. These days it will take 20

years. Small wonder: the average loan-to-income ratio has jumped from 1.8 in 1981 to 3.2 in 2014. And many are not just buying houses for their own use. Outstanding “buy-to-let” mortgages for landlords are now worth £190 billion, more than 20 times their value at the turn of the century. The National Housing and Planning Advice Unit, a former public body, found that 7% of a total increase in house prices of 150% between 1996 and 2007 was accounted for by increased lending to landlords.

All this demand has run up against sluggish supply. Over the past 40 years growth in Britain's housing stock has slowed sharply (see chart 2, overleaf). In the 1970s local authorities built about 130,000 dwellings per year; they now build 2,000. After Margaret Thatcher's government allowed local-authority tenants to buy their homes, councils struggled to replace them because they had to set aside most of the proceeds. New restrictions on the amount councils could borrow put another brake on building. According to an estimate from 2008, the public sector owns one-quarter of the ↗

Storming ahead

Real house prices, 1995=100





► land in Britain suitable for residential development, in old garages, ex-military bases and poorly designed council estates.

Private housebuilders have been idle, too. Strict planning laws are partly to blame. A quarter of English planning applications for houses are rejected, and even successful ones are often delayed. Protected "green belts", which are supposed to contain urban sprawl and offer pleasant spaces to city-dwellers, now cover 13% of England. Much green-belt land is far from green: one-third of London's and three-quarters of that in Cambridge is intensive arable land, estimates Paul Cheshire of the London School of Economics, who says there is enough green-belt land in Greater London to build 1.6m houses. The green belt remains sacred, but George Osborne, the chancellor of the exchequer, has vague plans to make it easier to force through some planning applications in the face of recalcitrant local authorities.

Yet even when planning permission is forthcoming, housebuilders have held back. As of October 2013, of the 507,000 units of land with planning permission, half had yet to see any building. For reasons that economists do not fully understand, for 40 years the construction of new houses has been a remarkably stable one-tenth the number of houses bought and sold. Mr Hudson says this relationship probably holds because housebuilders try to sell new-builds at a price in the upper decile of those prevailing in the local market. The number of transactions has steadily fallen since the 1980s, putting a ceiling on the probable number of new-builds.

One brake on buying and selling homes is stamp duty, a tax levied on housebuyers. Buying a house costing £430,000 (the average in London) would trigger a tax bill of £1,500, payable immediately. Last year the government changed stamp duty from a flat tax into a graduated one, turning it from a "very bad" tax into a merely "bad" one, in the words of the Institute for Fiscal Studies, a think-tank. Removing it entirely could boost housing transactions by

Tower Hamlets

Build up

Some London councils are cramming in lots more homes. It is still not enough

AS POLICYMAKERS wring their hands about how to build more homes, some London councils are getting on with it. Tower Hamlets has increased housing supply by 30% since 2004, more than any other borough. Yet even there, supply is not keeping up with demand.

Sitting just east of the City, on a bend in the River Thames, it has swathes of post-industrial land ready for redevelopment. The process began in the 1980s with Canary Wharf, an office complex where more than 100,000 people now work. Most of the building these days is of residential blocks.

The extension of the Tube in 1999 and the imminent connection with a new Crossrail line have made Tower Hamlets a more appealing place to live. Historically poor, it has fewer middle-class NIMBYS to object to the tall new buildings.

The council has played a major role, pushing through construction. In November it approved four towers containing 1,500 flats, some at densities double those recommended in the London Plan, the capital's blueprint. A new mayor of Tower Hamlets has announced a "short pause" to re-examine the project, after concerns that local infrastructure would not cope with so many new residents.

Councils like Tower Hamlets are keen to allow construction partly because of the benefits it brings them. It has been the biggest recipient of the New Homes Bonus, which rewards councils for building new dwellings, securing £75m (\$114m) in the past five years. There are returns from developers, too. As austerity erodes budgets, the Community Infrastructure Levy, paid by developers to the council for each property built, provides an assured income. And councils negotiate a percentage of social housing in each new

development. Labour councils, normally warier of big business than Tories, have been enthusiastic users of this system.

Not everyone is happy with the balance. "What's the point of large-scale housing development if people can't afford it?" asks Rushanara Ali, one of Tower Hamlets' two Labour MPs. There are nearly 20,000 people on the waiting list for social housing in the borough. It is not just the poor being squeezed out, Ms Ali says, but the middle class as well.

Even with all the building, the density of people per home in Tower Hamlets has increased—from 2.39 in 2006 to 2.58 last year—as population growth has outpaced construction. The same is true in boroughs such as Hackney, which has increased its housing stock by 15% since 2004. More building is good, but more still is needed.



No mere hamlet

8-20%, according to different estimates.

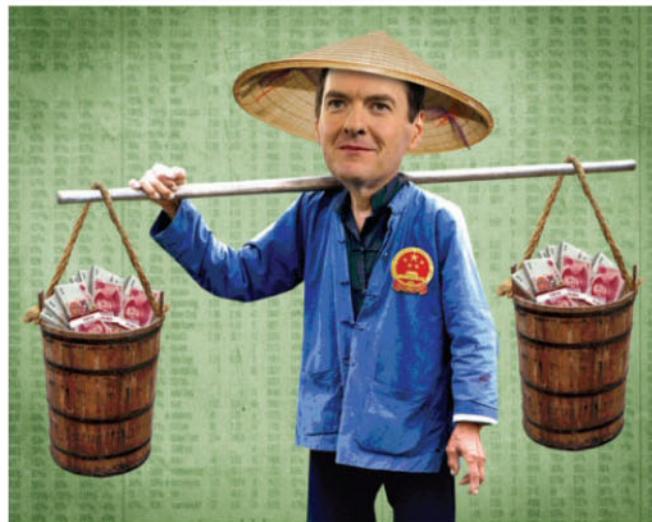
Also ripe for reform is council tax, a property levy collected by local authorities. Last updated in 1993, it hits residents in cheap areas relatively harder than those in pricey places. (The highest council-tax band in flash Kensington and Chelsea applies to dwellings worth more than £320,000; the average price there is £2m.) With these revenues held down, councils have less incentive to build more homes. And relatively low taxes on the priciest homes encourage people to remain in houses that are bigger than they need, thus reducing the supply of large houses to families. Despite Britain's acute housing short-

age, one-third of households have two or more spare bedrooms.

Since coming to power in 2010 the Conservative government has done more to boost demand for housing than increase its supply. Labour, meanwhile, talks about rent controls, which could flatten supply further still. Persuading homeowners voters that more building is needed is hard. "When *The Economist*'s readers all write in to me having read your editorial and say: 'Oh yes, and by the way, I'd like a house next to me,' then we'll know we're winning," says Mr Osborne. Letters should be addressed to the Treasury, London, SW1A 2HQ, before prices get any sillier. ■

Bagehot | The Osborne Doctrine

Britain is sleepwalking into a much closer relationship with China



A FAST, eight-car motorcade ploughs a furrow through the Beijing rush hour. Police lights blink in the smog. Officers guard the junctions, arms raised to hold back the cars. Hardly braking, the convoy sweeps past hutongs and luxury clothes shops, over gridlocked motorways and under the gaze of Chairman Mao (and the security cameras, six to a lamppost) in Tiananmen Square. Such is the style in which George Osborne, who arrived in China for a five-day tour on September 20th, treads the boards of the world stage.

Usually the Chinese authorities reserve the *jiaotong guanzhi*, or traffic controls, for Politburo members and foreign heads of state. But Britain's urbane chancellor of the exchequer is no mere finance minister. He is David Cameron's closest ally and, in all but name, deputy prime minister, foreign secretary and chief renegotiator of Britain's membership of the EU. In the past three years he has made the British economy dynamic, the Conservative party electable and himself liked—or at least tolerated—by voters who used to loathe him. His odds of succeeding Mr Cameron have never been better.

That is welcomed in China, for Mr Osborne is perhaps the West's most pro-Beijing statesman of his stature. He is clearly exhilarated by the country's boom. Sitting down with Bagehot in the British ambassador's residence, the chancellor animatedly describes his spell backpacking around China in the early 1990s; contrasting the "staid and dull" capital of that era to the buzzing metropolis of today, in the trendy, high-tech corners of which "you could be in San Francisco". Since 2012, when Mr Cameron's meeting with the Dalai Lama froze relations between the countries, the chancellor has been the face of the thaw. Britain should be "China's best partner in the West", he argues, promising a "golden decade" of co-operation. His hosts, too, issue encomiums; Shi Yaobin, the vice-minister of finance, says that Mr Osborne's "positive and remarkable" deals in Beijing pave the way for the state visit of President Xi Jinping to London next month.

Not everyone in Whitehall shares the chancellor's brio. Liberals argue that Britain should confront China's noxious human-rights record more vocally. Hawks fret about its cyber attacks and intellectual-property violations against Western states and firms. Lefties see Chinese money as inferior to investment by the British

state. Yet Mr Osborne believes that a happy moment has come in which the interests of the two countries align like never before. China's growth is slowing, but its emerging middle class and welfare state mean it hankers less for commodities and machinery from Australia, Brazil and Germany and more for the services and posh consumer goods in which Britain specialises. China's foreign reserves, meanwhile, give it the wherewithal to finance Britain's acute infrastructure needs. Thus the chancellor used the trip to hail, among many other agreements, the forthcoming issuance of yuan-denominated bonds in London, new licences for British banks operating in China and a guarantee for up to £2 billion (\$3 billion) of Chinese investment in Hinkley Point, a nuclear power station in Somerset.

This stance entails three gambles—economic, political and diplomatic—that together comprise a sort of Osborne Doctrine. The first bet is that binding Britain to the Chinese economy is worth the risk of violent shocks to British banks and infrastructure projects if the world's second-largest economy experiences a hard landing after its mighty boom. The second is that British voters are liberal enough not to mind foreigners owning swathes of their country. Mr Osborne cites their relaxed attitudes towards the Indian takeover of their leading car producer and Chinese stakes in their sewers, concluding: "The UK is coping with globalisation a lot better than most other European countries." The third bet is that China responds better to the carrot than to the stick. The chancellor is no foreign-policy dove, yet believes that the best way to influence Beijing is to increase trade and disagree only behind closed doors. Britain's reluctance to back the pro-democracy protests in Hong Kong last year and its unilateral decision in March to join the Asia Infrastructure Investment Bank, which angered the French and Americans (who see it as a rival to the World Bank) exemplify this new posture.

Kowtow if you want to

That this shift is so little discussed in Britain is remarkable. It could transform the country's role in the world. The Foreign Office is already diverting resources from Europe to China; from political desks to trade ones. Britain's growing friendship with Beijing appears to be losing it pals in Washington. Its new commercial links hardware its economy into that of a vast partner whose stock-market has fallen by almost 40% in the past three months. Mr Osborne points out that Britain is bound to the EU, too. But it is about to have a year-long debate, followed by a referendum, about that relationship. Where are the parliamentary wrangles over China? The prominent sinologists in Britain's public life? The headlines about the intrusions on British sovereignty by the economic giant to which Britain is, for better or worse, tethering itself?

Though unconvinced that stern words in private will stop Beijing from being beastly to its liberals and minorities, Bagehot otherwise accepts the chancellor's main argument: that China is now too big a power for a global entrepôt like Britain not to embrace. But the country is doing so by default; a change from which much of its establishment (let alone its electorate) is disengaged. As it plunges into a bunfight about its membership of the EU, it is up to the likes of the chancellor to forge a parallel debate about its much less certain, but increasingly close, relationship with the world's new superpower. ■



Pornography (1)

A user's manual

Hardcore, abundant and free: what is online pornography doing to sexual tastes—and youngsters' minds?

IN 2003 Peter Morley-Souter, a British teenager whose hobby was drawing comic strips with his sister Rose, was sent a parody of "Calvin and Hobbes", a strip about a six-year-old boy and his stuffed tiger, by a friend. It showed the titular pair having sex with Calvin's mother. Mr Morley-Souter posted his response online: a cartoon showing his anguished expression as he stared at his screen (not shown), captioned "Rule 34: There is porn of it. No exceptions."

Back then Rule 34 seemed an exaggeration, though one that held enough truth about the variety of smut to be found online that the phrase quickly caught on. Now it seems pretty close to reality. Images and videos on commercial pornography sites and fast-growing "tubes"—aggregators that host free amateur and professional content, making their money from advertising—are searchable by hundreds of terms, including the performers' attributes, the acts depicted and the body parts featured. No kink or "squick" (an "icky" kink) is too obscure to have its own website, from adult-baby minding to zoophilia.

"The internet is for porn," as the lyrics of a song from "Avenue Q", a Broadway musical, put it—another exaggeration with a kernel of truth. Ogi Ogas and Sai Gaddam, two neuroscientists, have used a vari-

ety of sources to estimate how much of the web is dedicated to porn and how often that material is accessed. Their findings are presented in a book, "A Billion Wicked Thoughts". They calculate that of the million most-visited websites, listed by Alexa, a web-analytics firm, 4% are dedicated to pornography. Many big non-specialist sites, such as Tumblr, where users curate images, show erotic content too.

Mr Ogas and Mr Gaddam also analysed all 434m searches entered into Dogpile, a site that returns results from all the biggest search engines, between July 2009 and February 2011. Almost 49m, or 11%, were of an obviously sexual nature. Another dataset containing three months' worth of searches by 660,000 customers of AOL, which the internet service provider (isp) released in 2006, allowed them to establish that some seemingly innocent terms were more often searched for in strings of searches for sexual material—"college cheerleaders", for example. The sex of about a tenth of the AOL customers could be inferred from their other searches, which, together with data from Pornhub, the biggest commercial porn site, allowed the pair to compare the proclivities of men and women. Women seem less keen on porn than men: Pornhub says that a quarter of its visitors are women. But those

women who do like porn mostly view the same stuff as men; far more visit Pornhub and the like than sites aimed at women.

Ever since Palaeolithic humans worked out how to paint and carve, new media have been used for sexually explicit representations. Some of the earliest photographs and films depicted disrobing or nude women. But they were pricey: in the mid-1800s, before the advent of negatives and half-tone printing, a photo of a naked prostitute cost more than engaging her for sex. Not until 1953, when Hugh Hefner launched *Playboy* with a nude photograph of Marilyn Monroe, did porn go mass-market. By the 1980s video had made it possible to watch x-rated films at home. Some attribute the victory of VHS over Betamax to Sony's refusal to allow pornographers to use its technology for mass production.

Brown paper ripper

The growth of smut unleashed a moral panic. Influenced by a left-right alliance of feminists and religious conservatives, a federal commission in 1986 concluded that pornography demeaned women, caused sexual violence and lasting damage to adolescents, and presented a "clear and present danger to American public health". But as time passed, those conclusions appeared alarmist. Women's status rose and rates of rape, domestic abuse and teenage pregnancy fell across the developed world. Several studies exploiting variations in the timing of more liberal pornography laws in different countries conclude that the greater availability of pornography could even have played a part in falling violence.

But, as Rule 34 and "Avenue Q" suggest, porn has now escaped the confines of girlie mags and skin flicks. The result is a new ➤

► porn panic. Free material on tube sites and amateur blogs has led commercial pornographers to produce ever more extreme content to survive (see next article). Many porn sites are hosted in Russia and other lawless places, leaving countries with age ratings and rules against ultra-violent and scatological images unable to enforce them. Portable devices make it easy to view porn in the privacy of a bedroom—or in the workplace or playground. Tech-minded teenagers can easily bypass content filters with the help of a VPN (virtual private network).

Some anti-porn campaigners reprise old arguments: in Iceland, which recently considered an (unworkable) ban on online porn, activists cited supposed links with sexual violence, harm to children and the degradation of women. Others, though, cite fresh concerns. On the NoFap Reddit forum (“fapping” is slang for masturbating), comments cite not moral objections or potential harms to others, but the effects on viewers themselves. Many members say they have watched pornography since their early teens and that they are addicted to it. Some say that without it they can no longer get an erection or reach orgasm.

The sharpest fears concern teenagers, now likely to see a vast amount of pornography long before becoming sexually active. Will they fail to understand how unrealistic it is? What are the pneumatic female stars and ever-ready, freakishly endowed male ones doing to their viewers’ body images and self-esteem? Some who work with adolescents, including Meg Kaplan, a psychologist at Columbia University who treats those convicted of sex offences, think it likely that some sexual tastes are formed around puberty. That means ill-timed exposure to unpleasant or bizarre material could cause a lifelong problem.

A huge social shift raising profound concerns: you might think it would have triggered an avalanche of high-quality, well-funded research. You would be wrong. In 2013 the Office of the Children’s Commissioner in England assessed the effects of porn on young people. On balance, it concluded, pornography did appear to influence them in negative ways, in particular by creating unrealistic beliefs about sex. The team used titles and abstracts to identify 2,304 papers, but on reading them discarded all but 276. It concluded that only 79 offered high-quality evidence.

Research funders in Britain and elsewhere are often reluctant to touch sexual topics, let alone porn. Programme officers at America’s National Institutes of Health (NIH) advise applicants to avoid using the word “sexual” in funding requests, says Nicole Prause, a neuroscientist at UCLA—even when the topic is sexual functioning. No computer purchased with NIH funding may contain sexual images or films, raising the question of how sex researchers are

supposed to go about their work. Dr Kaplan says she has been struggling for years to get funding from any source to study young sex offenders. Even research into normal sexual functioning is lacking, she laments. What hope is there of understanding how things can go wrong?

The best way to study the effects of porn would be to show it to a randomly selected set of people, with a control group watching other exciting stuff, such as car chases or sport. Subsequent differences in actions and attitudes could be tracked over time. In 1986 Neil Malamuth of UCLA used this approach to demonstrate that exposure to violent pornography hardened misogynistic attitudes, perhaps by normalising them—though only in men who already held them. But since then, ethics committees have clamped down on such studies. If even one rape defendant were to blame his crime on porn provided by a re-

searcher, let alone embarrassing habits that they know are frowned on. And asking only about direct exposure misses those who have not viewed porn themselves, but have heard about it from classmates. So the results of surveys, such as a pan-European one in 2010 which found that 14% of 9- to 16-year-olds had seen porn during the previous year, are likely to be underestimates. That survey also predated smartphones and iPads, which have made porn much easier to access, and the explosive increase in free material. Other researchers have asked university students when they first saw porn, but that relies on accurate recall and the results are guaranteed to be out of date.

Why do you think the net was born?

One of the most alarming assertions is that users can become dependent on porn in the same way that others are on drugs. In March ChildLine and NSPCC, two big children’s charities, published a survey claiming that one in ten British 12- to 13-year-olds feared they were “addicted to porn”. It soon became clear that it had been carried out by a market-research firm better known for brand-building exercises. Dozens of academics and sex educators signed an open letter saying it was not “indicative of actual harm but rather, provides evidence that some young people are fearful that pornography is harming them”.

Better evidence suggests that porn addiction, if it exists, is very rare. Valerie Voon of Cambridge University studied 23 men whose use of porn had caused them serious problems: some had lost jobs or partners because of their inability to control their viewing, and others had spent enormous sums on porn sites or said they were unable to achieve an erection without pornography. Scans of their brains as they viewed pornography showed patterns typical of drug-takers looking at drug cues. Some displayed a classic sign of addiction: despite craving pornography, they seemed no longer to enjoy it. In another study of “attentional bias” they responded abnormally quickly to pornographic images—also typical of addiction. Similar patterns were not seen in controls. But even within this severely affected group, Dr Voon saw a wide variation in brain response.

Ms Prause has also scanned the brains of men and women who describe themselves as viewing too much porn. She found no connection between the number and severity of the problems they reported and the “drug-like” nature of their responses to pornographic images. Conservative attitudes or a religious family background may be the factors that increase the likelihood of reporting problematic use of pornography, she says. “With porn, people say they are addicted when they just like it.”

“Clients are more alarmist than I am,” says Ian Kerner, a sex therapist and author ►



searcher—however unfairly—it would be a financial and public-relations disaster.

So most studies of pornography go no further than establishing correlations between how much people say they watch and their other characteristics. Various researchers have found that reported porn use is higher among those with relationship difficulties, erectile dysfunction and many other social and medical problems. Heavy users are more likely to have become sexually active early, to regard sex as a mere physiological function, like eating or drinking, and to have tried to coerce others into sex. But no one knows which came first: the porn or the problem.

Young people are particularly hard to study. Showing pornography to the under-age is illegal in most places, meaning that researchers must rely on self-reporting. But teenagers rarely talk openly to adults about

► of "She Comes First: The Thinking Man's Guide to Pleasuring a Woman". Many view a lot of online porn, report low libido and erectile or orgasmic difficulties, and conclude that they are addicted to the stuff. But often their problems can be solved rather simply. Dr Kerner asked a dozen clients with erectile issues to abstain from online porn for a few weeks. They masturbated less: it took too much work to fantasise unaided, put on a DVD or buy a magazine. Several found that their libidos returned.

The most common effect of a porn habit, says Geoffrey Miller, a psychologist at the University of New Mexico, is a tendency to watch a bit less television. But some callers to "The Mating Grounds", his podcast about sex, are young men who have opted out of relationships and much else: working in low-stress jobs, smoking a lot of pot and watching a great deal of pornography. They ask how to turn their lives around and get a girlfriend. Mr Miller recommends some simple steps, starting with exercise and a better diet, and progressing to mindfulness exercises and brushing up on general knowledge, all of which "raises their mate value". Easy substitutes for real pleasures do not cause their problems, he says, but make it easier to stay stuck in a rut.

You'll know it when you see it

Some fear that users of online porn who start with vanilla fare will click through to more outré stuff and develop a taste for it. This could, conceivably, be a danger for adolescents. But adults' tastes seem to be pretty fixed—and quite mundane. Mr Ogas and Mr Gaddam discovered that most of those searching for pornography have just one or two stable interests (body parts, sexual practices, performers' characteristics and so on). During the three months covered by the AOL data, 56% of those who searched for porn used terms in just one category. The average number of categories was two. Less than 1% searched for terms in ten categories or more. The top four categories were words relating to youth, breasts, vaginas and buttocks. The modal online sexual interest of a heterosexual male is "busty teen" or a variant, says Mr Ogas. "Men don't start searching for big breasts and work up to bestiality."

That is reassuring, as far as it goes. But even if porn usage does not change viewers' tastes, could it be affecting bedroom etiquette? In a study published last year, researchers at London University sought to find out whether porn played a part in young people's decisions to have anal sex. They interviewed 130 16- to 18-year-olds, some in groups and some alone. Both sexes regarded it as likely to be pleasurable for men but painful for women, at least if they were "uptight" or "naïve". Many of the young men described pressing girlfriends to consent; young women said they continued to be asked, sometimes

forcefully, even after repeated refusals.

The participants said that porn "made" men want anal sex—an explanation Cicely Marston, one of the researchers, describes as "partial, at best". The desire evinced by many young men to boast of sexual conquests seemed to be at least as influential. But porn's influence was evident in their understanding of sex more generally. The researchers asked them to name all the sexual practices they knew of. They listed many porn tropes, such as threesomes and gang bangs, and some scatological and extremely violent acts made notorious by particular clips and films.

Without longitudinal studies, though, it is hard to know whether there has been a broad shift in sexual practices, and if so, whether porn played a part. Cindy Gallop, an advertising executive, offers an intriguing, and disturbing, insight. In 2003, aged 43, she was pitching for an online-dating agency's account. To study the market, she signed up with several of its competitors. E-mails from men in their 20s flooded in.

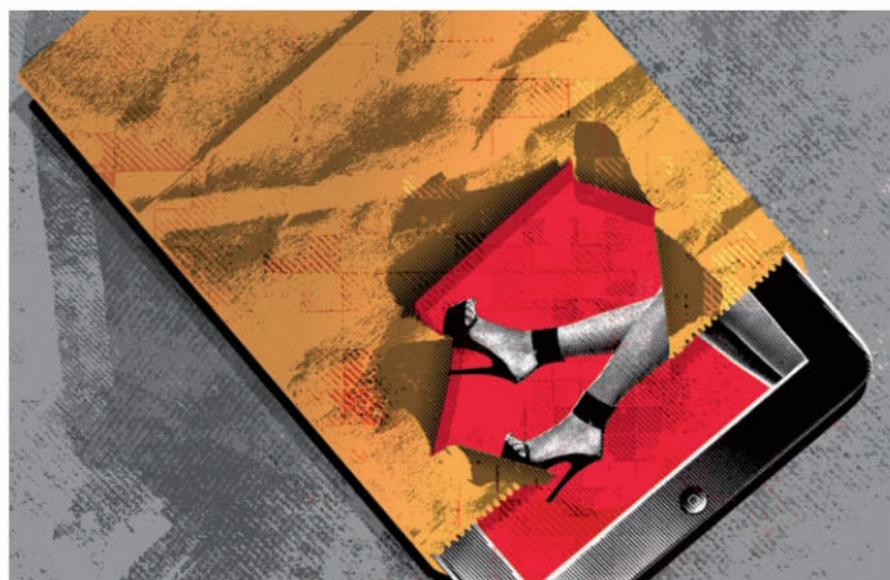
Since Ms Gallop, too, was interested in no-strings sex, she found herself in a position to sample changing sexual mores up close. In 2009 she created a website, make-lovenotporn.com, to debunk ten "myths from porn world" that seemed to have become common currency among young men, such as the idea that calling women filthy names during sex is a sure-fire way to turn them on. A four-minute TED talk she gave about her experiences was one of the most discussed that year, and has since been watched on YouTube more than a million times.

Ms Gallop is still receiving e-mails from all over the world. They suggest that young women, too, have had their sexual sensibilities shaped by porn. Young couples thank her for sparking a conversation in which they discovered that neither had been enjoying things they had been doing

in bed only because each thought the other expected them. She has since created make-lovenotporn.tv, a video-sharing site aimed at making real-world sex "socially acceptable and socially shareable", and hopes to set up another for sex-education materials, if she can find funding.

Some are responding to the flood of online porn by trying to dam it. In 2013 Britain's government forced ISPs to block adult content from new customers' computers unless they turned filters off. Since most customers did so, the government now plans to shut down adult websites that do not force users to prove that they are over 18, perhaps via an anonymised ID check with the electoral roll or credit-reference agencies. Since most porn sites are based outside Britain, it intends to make ISPs block websites that do not comply.

Filters at least stop children from seeing unsavoury stuff by accident. But anyone seeking porn can easily bypass them with a VPN, and wholesale blocking of legal material may break European rules that forbid ISPs from treating one sort of traffic differently from others. Denmark, where sex education has been compulsory since 1970, is taking a different approach. Rather than trying to pretend porn does not exist, or stop young people from seeing it, some Danish teachers are starting to discuss it in the classroom. "It's not a question of introducing pupils to porn," says Christian Graugaard, a professor of sexology at Aalborg University who would like such lessons to go nationwide. "The overwhelming majority of both girls and boys have already encountered pornographic images in their early teens." Porn can be used to talk about gender equality, safe sex and the meaning of consent, he says—and about how to have a happy sex life in the future. Since porn is all around them, he thinks, "it's important young people learn to be critical consumers." ■



Pornography (2)

Naked capitalism

The internet blew the porn industry's business model apart. Its response holds lessons for other media firms

IT WAS 2012, and Fabian Thylmann's goal was world domination. The man who had put together Manwin, an emerging online-pornography giant, now controlled most of the top ten porn "tubes"—aggregators that, like YouTube, contain thousands of videos and are wildly popular, because much of their content is free. If he could get hold of the two biggest, XVideos and XHamster, he could put it all behind a pay barrier and build an online porn empire. If competitors emerged, he would buy them, too. What antitrust authority would rein in a monopolist in a business that upstanding people pretend does not exist?

But neither of his targets would sell. The French owner of XVideos is said to have turned down an offer of more than \$120m with a scornful "Sorry, I have to go and play Diablo II." Mr Thylmann later sold out of Manwin (since renamed Mindgeek), after coming under investigation by tax authorities in Germany, his home country.

Still, Mr Thylmann left a lasting legacy—just not the one he had intended. Inadvertently, he helped cement the tubes' dominance, turning porn into a commodity in the process. The upheaval suffered by other media businesses in recent years has been experienced by the porn industry in fast forward. And it is now signalling the direction of further change, including the fusing of real and online worlds through virtual reality and robotics.

Cheaper thrills

Porn used to be pricey: although it is legal in many countries, sexual taboos, regulation and the difficulties of distribution limited supply. That made for high prices—and outsized profits. Business was best after first videotapes and then DVDs made it cheap to shoot and distribute films to watch at home. In the 1990s dozens of producers, many of them based in California, churned out hundreds of x-rated films each month to buy or rent.

In the internet's early days, pornographers continued to profit. They realised the potential of e-commerce faster than other businessfolk: an American law requiring them to make customers of phone-sex lines punch in a credit-card number to prove they were not minors meant they were technically well prepared. By the early 2000s there were more than 3,000 porn sites, most of them tiny, subscription-based outfits. Making money was simple: set up a website with some pictures, con-



trol access using billing software and see the bank account fill up.

But then porn was hit by the truth, first spotted by Stewart Brand, a technology guru, 30 years ago, that content "wants to be free". To attract custom, sites started to give away "teasers". Amateur pictures—and not a few pirated ones—joined the free commercial content. Soon it was all being aggregated by "list sites" and "thumbnail galleries", essentially collections of links. As the internet got faster, videos replaced pictures. Then came the tubes, which made their thousands of clips searchable. That porn is an industry where raw market forces reign helped them lay siege to the established producers: when anything goes, everything is tried, and quickly copied if it turns out to work.

In America the number of porn studios is now down from over 200 to 20, says Alec Helmy, the founder of XBiz, a trade publication. Performers who used to make \$1,500 an hour now get \$500—even as increased competition means they are asked to produce more extreme content. Revenues are well below their peak; how far below is hard to say, as most porn producers are private. Just before the tubes took off, plausible estimates put worldwide industry revenues at \$40 billion-50 billion. Mr Thylmann thinks they have fallen by at least three-quarters since then.

Mr Thylmann was not the first corporate porn-predator, but he had an edge:

originally a programmer with an interest in data science, he had rare insight into what made one site successful and what it would take to drive more traffic to another. Sometimes his data-crunching meant he knew businesses were more valuable than their owners had realised. Among those he scooped up were some of the most successful pay sites. In 2012 he took over Digital Playground, which specialises in (by porn's standards) big-budget productions, such as a highly successful parody of "Pirates of the Caribbean". Mindgeek has continued its acquisition spree since he stepped back.

With most porn on the internet now free and easy to find, the number of adult sites, and traffic to them, have exploded. The web boasts an estimated 700m-800m individual porn pages, three-fifths in America. PornHub, Mindgeek's biggest tube, claims to have had nearly 80 billion video viewings last year, and more than 18 billion visits (see chart). In terms of traffic and bandwidth, Mindgeek is now one of the world's biggest online operators in any industry. The company says its sites serve more than 100m visitors a day, consuming 1.5 terabits of data per second—enough to download 150 feature films.

Earlier than other parts of the online world, porn discovered that traffic and data are the coin of the digital realm. Tsunami-like traffic became the basis for a new business model. The list sites of the web's early days sold clicks on their sites to traffic brokers, which redirected visitors to pay sites. If one ended up subscribing, the pay site would give the broker a fixed fee or a share of the revenue. Next-Generation Affiliate Tracking Software, known as NATS, which Mr Thylmann developed in the 1990s, was best at monitoring traffic and ensuring that it was paid for. Mindgeek now uses the data it collects to refine ad placement: TrafficJunkie, its online advertising network, delivers highly targeted ads, for instance to mobile devices owned by gay people in San Francisco.

Beyond explicit

The traffic the tubes can direct towards pay sites means that their relationship has evolved from hostility to close, if grudging, co-operation. More and more content producers are signing deals to let their stuff appear on tubes: if a viewer clicks through to the originating site and subscribes, the tube will get a cut, sometimes as much as 50%. Since tubes get so many visitors, the bargain may be worthwhile for pay sites even if only one in 1,000 of them decides to subscribe. But the tubes are by far the bigger winners, getting not only commissions but more videos, which in turn drive up their traffic and ad rates. The model has been likened to a "vampiric ecosystem" in which Mindgeek and the other tube sites feed on pay sites, sucking their profitability. ►

► All this will sound painfully familiar to other media firms. Echoing the aggregation deals struck by the tubes with commercial porn producers, social-media sites are starting not just to link to content, but to host it. Snapchat, a messaging app that lets users send each other photos and videos that vanish after a few seconds, allows news outlets to publish articles on its service in return for a share of advertising revenue. Facebook is doing something similar with its Instant Articles service. Indeed, Facebook, Twitter and their like have essentially evolved into traffic-brokers. Many of the clicks they pass on come from links posted by users. But the number of ads, promoted posts and suchlike is growing.

Some pornographers hope to escape the tubes' embrace by going beyond the standard skin flick. One approach is to connect the real and virtual worlds by offering live performances via webcams. A client might pay \$4 a minute for a personal performance, half that if others are watching. Performers get a cut, typically 25%. Such "cam" sites are among the biggest advertisers on the tubes. Some can stream thousands of feeds simultaneously. LiveJasmin, one of the biggest, has 40m visitors a day; its founder, Gyorgi Gattyan, is Hungary's richest man.

Kink.com takes specialisation further. It peddles BDSM (bondage, dominance, sado-masochism and the like). Its strong brand helped it withstand the onslaught from the tubes; still, revenue has been sliding since 2011. It is trying to recover by strengthening loyalty through new forums and interactivity. Customers can log in to watch live shoots, chat with participants and buy props and costumes that were used in films. Another type of specialisation is to coax well-known people in front of the camera. Vivid Entertainment, which is run by Steven Hirsch, a veteran of the industry, has made a business out of releasing celebrity sex tapes online.

This niche-carving might suggest that the industry is settling down after its shake-up. The tubes are now so big that growth is hard to come by. To expand their reach further, some are resorting to guerrilla marketing. This summer, for instance, PornHub loudly announced a crowdfunding exercise to raise \$3.4m for "Sexploration", a project to film the first sex tape in space. (The zero-gravity antics will have to wait: less than \$300,000 was pledged.)

Nevertheless, Mr Thylmann strikes a downbeat note. Sitting in his office, next to a giant picture of Pablo Picasso ("who loved porn"), he says he fears that the industry he did so much to change is no longer at the cutting edge. Porn sites, once magnets for the brightest geeks, are losing out to mainstream e-commerce and social media in the talent war. He has remained out of the business (officially at least) since leaving Mindgeek, and is now an angel in-

vestor in conventional tech firms. "I get pitched a lot of porn ventures," he says, "but no one has come to me with the next killer idea, and I'm not sure it's out there."

Earlier this year PornHub launched a Netflix-style subscription service, which offers high-quality, ad-free streaming for \$10 a month. But it has not yet said anything about early take-up. The industry faces regulatory risks, as governments seek to strengthen filtering and enforce age restrictions for viewers. Another risk is that Google chooses to censor porn keywords; it already seems to be moving porn sites down search results. Still another is that Visa and MasterCard follow American Express in refusing to process payments to porn sites.

Meanwhile pay sites are fighting a constant battle with purveyors of computer viruses and other malware. In 2010 a group of researchers at the Vienna University of Technology and elsewhere found that over 3% of porn pages triggered malicious behaviour of one sort or other. The risk of malware or fraud makes many porn-watchers think twice before opening their wallets—as does the risk of exposure if a site they subscribe to is hacked.

Flesh thinking

Some believe that cam sites have reached the high point of their popularity. But a peer-to-peer version is already taking off. Last year Snapchat introduced Snapcash, a feature that lets users of the app send each other money. This is being used to pay for viewing pictures of strippers, lap-dancers and the like. Prices range from a dollar or two for a few pictures, to double digits for a personal sex show.

And then there is the real thing—or a

version of it—made possible by the fact that a viewer's whereabouts can be inferred from his internet connection's address code. Many dating and escort sites advertise on the tubes, trying to lure clients with messages. (This sort of advertising is harder in America, where prostitution is mostly illegal, than in Europe, where it mostly is not.)

Porn is a pioneer in virtual reality (VR), a technology being eyed avidly by Facebook, Microsoft and others. Along with video-gaming, the industry is sure to play a key role in its mainstream adoption. Sex-with-headsets is either brimming with potential or a dead-end, depending on whom you ask. In an article for *Medium*, a website, a reporter who tried virtual sex with VR headgear concluded that it could be "an elaborate form of x-rated hucksterism". On the other hand Bryant Paul, an expert on sex and the media at Indiana University, believes that "whether it's five or ten or 20 years, someone will come up with the killer combination of device and software to create human-like experiences."

A fast-growing cottage industry makes sex toys that work with Oculus Rift and other VR headsets. There is also much excitement about "teledildonics": remote-control technologies that allow people thousands of miles apart to control each other's gadgets. VirtualRealityPorn, which offers such a VR experience enhanced with sex toys, claims to have signed up in the "high thousands" of subscribers at \$7 a month. The revenues of porn producers may never return to their former heights. But whether or not such innovations bear fruit, the industry is once again offering other media and online businesses a glimpse of the future. ■



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Foreign tech firms in China

Cards on the table

SHANGHAI

American tech firms may dislike China's policies, but they cannot resist its market

“IN THIS case, there is no ‘House of Cards’.” President Xi Jinping of China charmed his audience with those words at a fancy dinner in Seattle on September 22nd. Also at the event, a prelude to his state visit to Washington, DC, later in the week, were political figures like Henry Kissinger and business leaders with investments in China such as Bill Gates and Satya Nadella of Microsoft. His comment was a reference to a popular television series, in which Sino-American business dealings go awry as a result of geopolitical machinations and political skulduggery.

Though the gathered worthies laughed at the joke, the businessmen among them are worried. Commercial ties bind the world’s two largest economies, but geopolitics constantly risks driving them apart. In recent weeks the Obama administration has threatened to impose sanctions on China for allegedly spying on American firms. Mr Xi insisted his government would not engage in commercial theft, “nor encourage or support such efforts by anyone.” (The two countries are negotiating a treaty to ban first use of cyber-weapons, though there is scepticism about the effectiveness of any such deal.)

Life has certainly got harder recently for foreign tech firms in China, and not just because of decisions made in Beijing. Chinese officials have long pursued a policy of “indigenous innovation”, in which they have tried to force multinationals to trans-

fer technology to local champions. This effort had largely failed, sparking some hope that more open policies might emerge in its stead. Reformist forces within the Chinese leadership have floated proposals for putting foreign investors on the same legal footing as local firms, for example.

Sadly, American mischief-making has given the upper hand to protectionist forces in China. Although China’s cyber-snooping and its techno-nationalism are worrying, America is hardly blameless on this front. The blacklisting in 2012 of Huawei, a Chinese telecoms-equipment firm, by an American congressional committee, was seen as deeply unfair: the congressmen made sweeping accusations of spying

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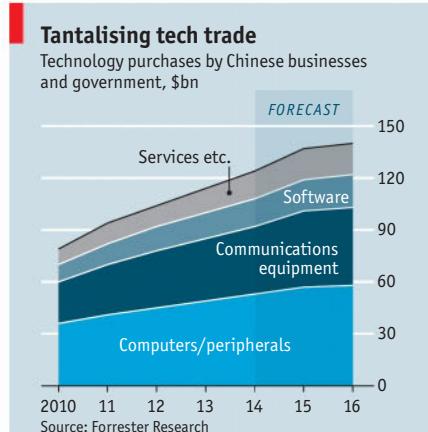
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but presented no evidence. Adding fuel to the fire were Edward Snowden’s revelations that America’s National Security Agency spied extensively on Chinese targets (including Huawei), and suggestions that American tech firms helped it snoop.

China is now squeezing foreign tech firms in various ways. Regulators have tried, for example, to get local banks to use only IT deemed “safe and controllable”. Foreign firms say this will force them to turn over their software source codes and encryption keys to the government. The uproar seems, for now, to have made officials put off implementing these rules.

The idea that geopolitics is poisoning the well for American tech investments in China is ill-founded, however. For a start, the lure of China’s huge market is powerful. Forrester, a consulting firm, reckons that the market for selling technology products to China’s government and businesses will be \$136 billion this year, up by 9% on 2014 (see chart)—and that is before counting sales of such things as iPhones to Chinese consumers. America’s tech firms, typically the global leaders in their niches, have done well in China until recently. Goldman Sachs, a bank, estimates that the technology firms in the S&P 500 index earned around one-tenth of their worldwide revenues there.

All this explains why American tech bosses lobby politicians in Washington, DC, to bash the Chinese even as they jet off to Beijing to strike deals to expand their presence there. Consider the case of Cisco, an American network-equipment giant that helped build the backbone of China’s internet (including, human-rights activists have claimed, its censorious Great Firewall). Its sales in China have fallen from over \$2 billion a year in 2012 to under \$1.5 billion this year. But in June Cisco pledged to plough over \$10 billion into China over ➤



Apple

From iPhones to iCars

SAN FRANCISCO

Apple is entering the auto business, but the road ahead could be rough

HAVING redefined the personal-computer and mobile-phone industries, Apple has set its sights on a new, moving target. The darling of the tech industry is aiming to debut an electric car in 2019, according to a report by the *Wall Street Journal*. For years there had been speculation that Apple had auto ambitions. It has been hiring swarms of engineers to work on the project, code-named Titan, which now employs around 600.

With around \$200 billion stored up, Apple certainly has enough cash to spend on a new venture. Its legions of fans are always eager to see it launch a new offering that makes a splash. Its most recent product, the Apple Watch, has not been the massive hit some analysts expected, and Apple's launch event earlier this month was rather dull, showcasing mainly tweaks to existing products. Launching a car would be far more daring and, in theory, highly lucrative. Global car sales were worth around \$2 trillion last year.

However, there are many things about the car business that make it quite unlike peddling phones. The replacement cycle for an iPhone is a mere two years. Consumers hold on to their cars for far longer. To make business sense, Apple's cars would need to earn returns comparable to those of its existing products. But gross profit margins like Apple's current 40% or so are something most large-scale car-makers can only dream of. At BMW, one of the most profitable of these, such margins are around 20%.

An even more important factor is that, as demonstrated by all this week's attention on Volkswagen, cars are more heavily regulated than consumer electronics. Compliance with safety standards and emissions rules is likely to be more rigorously enforced in future. That is a tricky prospect for even the most experienced carmaker, let alone an industry newbie.

The firm's capabilities in mobile devices will be an advantage, as cars become ever more connected to the internet. But the risks associated with connected cars are of a different order to those with mobile phones. This week it was revealed that malware had infiltrated some of the smartphone apps sold in Apple's store, including two of the most popular apps in China. This was embarrassing but not disastrous. If similar malware got into an Apple car, the results could be deadly.

Such concerns are not enough to discourage tech firms from driving at full speed into the car business. Leading the way is Tesla, a maker of upmarket electric vehicles set up by Elon Musk, a successful tech entrepreneur. Google is working on a self-driving vehicle and an operating system for cars, and recently hired a former motor-industry executive to run its autonomous car project. Apple's decision to enter the motor industry may be fuelled in part by not wanting to leave Google with control of the dashboard and cars' operating systems. Their rivalry is turning into a road race.

► the next few years in investments and partnerships. This week it announced a partnership with Inspur Group, a local maker of computer servers.

Likewise, after Mr Gates and Mr Nada dined with Mr Xi, Microsoft announced deals with two Chinese state firms: a joint venture with Tsinghua Unigroup, a chipmaker, to sell cloud-computing services to other state firms; and a deal with China Electronics Technology to sell state firms and government bodies a localised version of the Windows operating system. Microsoft also struck a deal with Baidu, a private internet giant.

Other American firms have made similar moves. Qualcomm, which makes chips for smartphones, paid nearly \$1 billion to settle an antitrust case in China in February, and then in June announced a joint venture with SMIC, China's leading semiconductor "foundry", to develop new chips. Last October IBM announced a deal

with the government to arrange licensing of its intellectual property to local firms.

Intel, a computer-chip goliath, last year acquired about a fifth of Tsinghua Unigroup, which has ambitions to be big in chip design, for \$1.5 billion. Not to be outdone by all the wheeling and dealing, Dell, a computer-maker, said this month it will invest a whopping \$125 billion in China over the next five years. And not forgetting Google, which is said to be reconsidering its decision in 2010 to close many of its operations on China's mainland.

Geopolitics still trumps all, of course. If a conflict were ever to break out in the South China Sea, because one of the increasing number of close encounters between American spy planes and Chinese interceptors goes wrong, then foreign firms operating in China would quickly feel the heat. Short of that, though, it looks as if business will continue to have the upper hand in Sino-American relations. ■



Drug pricing in America

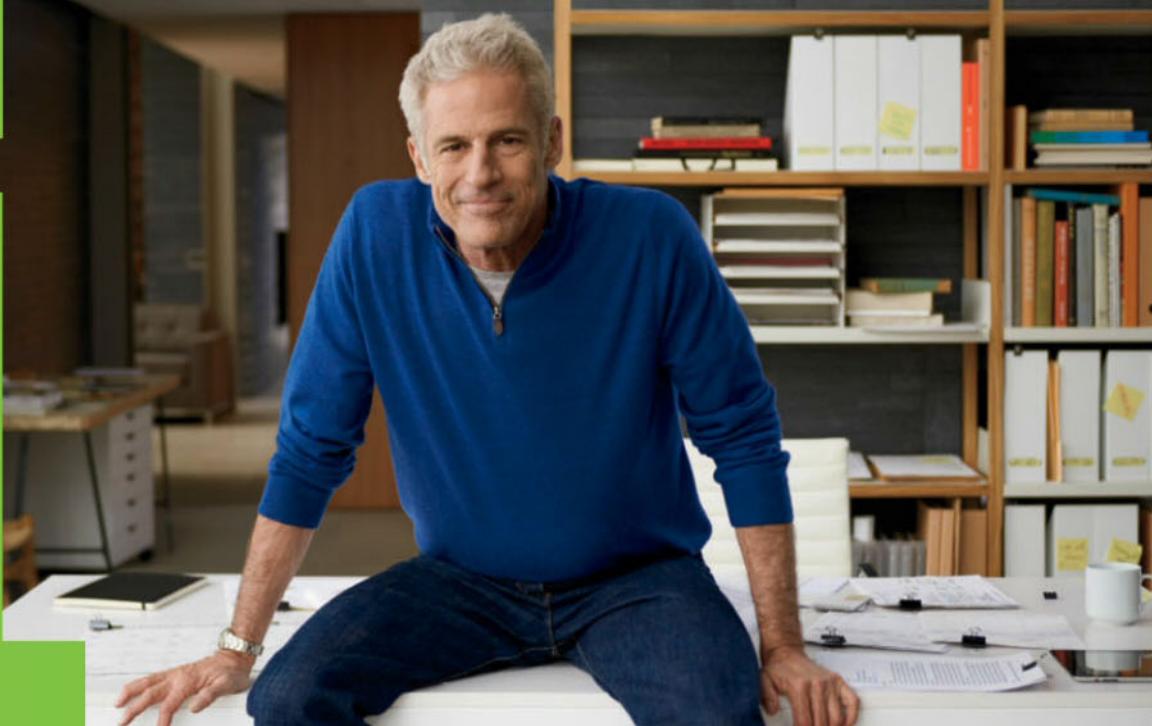
Painful pills

Sudden price rises for long-established drugs lead to calls for action

WHEN Martin Shkreli, a biotech entrepreneur (pictured), bought the American marketing rights to Daraprim, a drug that treats a parasitic infection, he probably did not expect to end up being cast as the poster-child of price-gouging. However, when his company, Turing Pharmaceuticals, said it would increase the price of Daraprim in America from \$13.50 a pill to \$750, he received a torrent of condemnation. Hillary Clinton, the Democrats' leading presidential contender, announced plans to take on this sort of "outrageous" pricing. On September 22nd, Mr Shkreli promised to rethink the price rise. The row prompted big falls in biotechnology companies' shares, amid worries that Mrs Clinton's comments may herald a broad push-back against the high cost of medicines.

Mr Shkreli defended his move, saying that Turing plans to invest in research and development to improve the 62-year-old drug. Doctors expressed scepticism. Some said they needed not a better drug but a cheaper one. The medicine is used to treat toxoplasmosis, an infection that is particularly dangerous to people with weakened immune systems, such as those with AIDS and some cancer patients.

The price increase inflamed Americans' anger over the growing cost of prescription medicines. In the past year there has been much criticism of the price of a recently introduced hepatitis C drug, Sovaldi, as well as the costs of new immuno-oncology and cholesterol-reducing drugs. However, Daraprim is quite different from these treat- ►



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ments. Its patent expired long ago and in theory there is nothing to stop another firm producing and selling it under its generic name, pyrimethamine.

In other countries, such as Britain, Daraprim is sold by GlaxoSmithKline (GSK), at a far lower cost of around \$20 for 30 pills. GSK sold the rights to market Daraprim in America in 2010 and those rights changed hands again recently, with Turing the buyer. For many products, a price rise of more than 5,000% is an open invitation for a competitor to come in and offer something similar for less money. But the market for Daraprim is so small, and the process of getting permission to sell even copies of long-established drugs is so bothersome, that even at its new price it may not be worthwhile for another firm to do so.

Turing's actions follow in the footsteps of other companies that have bought the rights to older drugs and raised their prices. Valeant of Canada sharply raised the cost of two heart drugs after acquiring them this year. Horizon Pharma increased the price of a pain-relief tablet, Vimovo, by 597% after buying the rights from AstraZeneca in 2013. Since 2008 the price of all branded drugs (including both patent-protected ones and those whose patents have expired) has risen by 127% in America, compared with an 11% rise in the consumer-price index, reckons Express Scripts, which manages medicines' costs on behalf of employers and health insurers.

Although Turing promises to waive the cost of its pills for people who have no health cover, it still looks like imposing a big price rise on insurers, hospitals and government health schemes. So, ultimately, patients and taxpayers will feel the pain. The 13.1% increase in prescription-drug spending in 2014 is already leading to higher premiums for health cover.

An obvious and sensible palliative for rising prices for old drugs like Daraprim is, as Mrs Clinton proposes, to make it easier to import foreign-made copies. She also says Medicare, the government health scheme for elderly Americans, should be able to negotiate prices with drug firms—it now has to pay whatever they ask. She wants to stop firms treating the cost of direct-to-consumer advertising as an expense allowable against tax, since such ads encourage patients to demand specific drugs when there may be cheaper but just as effective alternatives. And Mrs Clinton says she would require drug companies that benefit from government spending on research and development to invest a "sufficient amount" in R&D of their own.

If she were elected president, she might struggle to get much of this through Congress, and even then it might have only a marginal effect on the inexorable rise in the cost of medicines. But at least Mr Shkreli's antics have put drug pricing firmly on the election agenda. ■

African firms and private equity

Climbing aboard the Africa train

NAIROBI

Local firms gain more than investors when private equity arrives

A LONG line of smoke-belching lorries clogs the highway for miles outside Mombasa, Kenya's main port. They are waiting to collect shipping containers that they will haul across 1,200 grinding kilometres to Kampala, Uganda's capital. Doing so is slow and costly. Yet for a quarter of a century this was the only viable way of shipping goods into east Africa's interior. The moribund railway was even slower, and thoroughly unreliable: at best it would take 12 days to move a container by train.

Today a procession of brightly painted locomotives (pictured, next page) belonging to Rift Valley Railways are taking an increasing share of the load. The time to send a container by rail has fallen by more than half and, for the first time in decades, the trains are running on time. Now, as much as 10% of the traffic out of Mombasa is carried by rail—double the share of a few years ago—and new wagons and locomotives may double that share again.

The improvement is almost entirely due to the influence of private equity on a railway that, when built in British colonial times, seemed such an outlandish venture that it was dubbed the "lunatic line". Qalaa Holdings, an Egyptian investment firm, has invested almost \$200m in improving the railway since it first took a stake in 2010.

More than money, Qalaa has brought skills and technology. When it arrived it found a "dead fleet" of locomotives rusting in the sidings for lack of spare parts. Almost half have been repaired. New machines now carry out maintenance on the tracks at a rate of 1km an hour, where previously it was done by hand at a pace of 40m an hour. Modern electronic control systems have helped trim spending on fuel by about a tenth.

"Without proper processes and maintenance, capital spending is just money down the drain," says Karim Sadek, Qalaa's managing director. Other private-equity

firms are drawing similar lessons. "You have to be really hands-on with every one of your companies," says Suleiman Kigundu of CDC, a development arm of the British government that uses private-equity techniques. With luck, this will mean that the large amounts of private-equity money now going into Africa—seen as the last great frontier market—are not wasted. Last year such investments reached \$8.1 billion, close to the pre-crisis peak and well up on the low of \$1.5 billion in 2009.

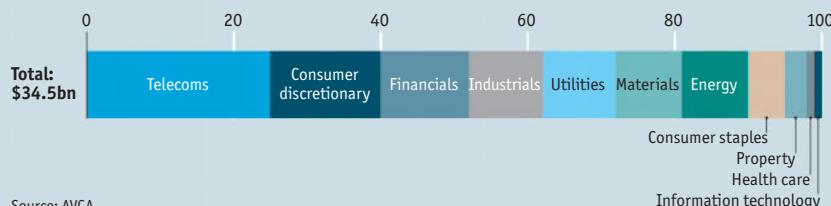
This great migration of capital comes as African economies are slowing after a decade of good growth. Lower commodity prices are dampening expansion in places such as Nigeria and Angola. Poor financial management is hurting others, such as Ghana, Kenya and South Africa. But the slowdown may affect African businesses less than ones that private-equity firms have invested in elsewhere in the world.

In many countries, a typical deal would involve a buy-out fund loading its newly acquired business with debt, to multiply its returns. In Africa, most buy-outs are done with little or no debt because domestic-currency borrowing rates are so high—perhaps 15-24% in the region's larger economies. (Foreign-currency rates are much lower, but are a risky bet for businesses that do not earn revenues in dollars or euros to pay back their loans).

So, instead of boosting African businesses' returns through debt, private-equity firms have to increase revenue and improve efficiency. Consider the example of Umeme, which runs Uganda's power-distribution grid. When Actis, a British investment firm, bought a stake, power losses consumed 40% of the electricity generated. By making some simple changes, such as replacing old insulators on its cables and reducing the theft of electricity by dismantling illegal connections, it has cut those losses in half. ►

Into Africa

Value of private-equity transactions in Africa by sector, 2007-14, %





Private equity aboard

► Companies can also get help from private-equity investors in expanding into new markets, or replicating existing businesses in other countries. Agri-Vie, a South African firm, owns stakes in several agricultural and food-processing businesses, ranging from a flower grower in Kenya to an Ethiopian fruit-grower and juice-maker. "We find solid companies. The key challenge comes at the point of scaling up and moving beyond a single market or country," says Herman Marais, its managing partner.

In other cases private-equity firms find themselves acting more like venture capitalists, or even startup founders. One of Nigeria's most successful home-grown firms is Verod Capital Management, which earned about 15 times its investment on a new factory making drinks cans. It is now involved in several other startups, including a fish farm. It has bought Spinlet, a Finnish music-streaming company, and transplanted it to Nigeria.

Yet even if they adapt to local conditions, buy-out firms still find that Africa is no path to easy riches. In the ten years to September 2014, South African private-equity firms, for instance, delivered returns that, although seemingly juicy at 18.5% a year (in local currency), were less than their investors would have earned simply by betting on stockmarkets.

Data on other firms and other countries are sparse, but industry insiders reckon that African deals had annual returns of only about 11% for the decade to 2012. Fewer than half of buy-out funds did better than the median fund investing in listed stocks. The worst-performing investments were those struck during the previous peak, a warning to those firms now itching to spend unused capital. In the rich world private equity is often accused of enriching investors at the expense of the firms they buy. In Africa, the reverse seems to hold. ■

Eco-friendly detergents

Green wash

CHICAGO

Most soaps are eco-friendly these days, but only some advertise the fact

WHEN it comes to corporate citizenship, Method's ambitions are sky-high. The maker of environmentally-friendly cleaning products, which opened its first factory, in Chicago, in April, wants to be "the most sustainable and the most socially beneficial company in the world," says Adam Lowry, one of its founders. Method would like to set a new standard in urban revitalisation, while making its factory a paragon of sustainability.

The building that Mr Lowry, a chemical engineer, helped to design is partly powered by its own wind turbine and solar panels and has huge skylights to make as much use as possible of natural light. On its roof, what it claims is the world's largest rooftop farm will soon open. Some of its produce will be donated to food banks.

To lure this pioneering green factory to Chicago, the city chipped in \$8.1m through tax breaks. A community-development organisation contributed another \$1.2m. In return they will get the 120 or so jobs that the factory is bringing to this long-neglected, poor part of Chicago—and perhaps more, as other firms follow. Walmart, a giant retailer, recently opened a shop in the area. Plans are afoot to build studios and living quarters for artists.

Method prides itself on making detergents and soaps that look fun and harm neither their users nor the environment. It uses 100% recycled-plastic bottles for its turquoise-, orange- and lavender-coloured detergents. On its website it discloses all the ingredients it uses, and it promises that it would not use any for which there was even a chance that it might not be safe or environmentally friendly. (Mr Lowry even insists that Method's colourful liquids are safe enough to drink, though he stops short of a demonstration.) Every ingredient is evaluated by MDBC, an environmental-research outfit, and by Cradle to Cradle, a non-profit organisation that runs a certification scheme.

This all sounds lovely. But are Method's products really any more virtuous than those sold by behemoths such as Procter & Gamble, S.C. Johnson or Clorox? Industry insiders say that ten to 15 years ago many makers of cleaning products, big and small, used some fairly vicious ingredients, such as chlorinated bleaches, phosphates and ammonia, especially in products to clean drains, ovens and toilets, that polluted the waterways they were eventually sluiced into. More than one-third of the fragrances

they used were toxic if ingested. Eco-friendly products were also available at the time, but they were expensive, dowdily packaged and often a lot less effective than the regular stuff.

However, things have changed since then, as both chemistry and product design have made significant progress. Method and its peers, such as Seventh Generation or The Honest Company, realised that there was a substantial latent demand for greener and safer products among many consumers, if only they were good enough, and attractively presented. In 2010 less than 20% of American consumers surveyed said they had bought a green cleaning product in the past year; now the figure is almost 30%, says Scot Case of the Natural Marketing Institute, a consulting firm. In 2009 only 15% of consumers surveyed said they would be prepared to pay up to 20% extra for a greener cleaning product; last year the figure was 29%.

At the same time, under pressure from environmental groups and regulators, almost all big makers of cleaning products have tweaked their formulas to drop harmful ingredients, and have managed to do so without losing much effectiveness. "The industry has made great progress," says Clive Davies of America's Environmental Protection Agency (EPA), even if there are still a few manufacturers using ingredients the agency does not like.

To keep up the pressure, the EPA has just revamped its programme for evaluating cleaning products and encouraging manufacturers to clean up their acts. It awards grades to the various chemicals used in them. Green circles and half-circles indicate an ingredient is of low concern; a yellow triangle means it is not so safe; and a grey square means it is unacceptable. Grey-square ingredients disqualify products from gaining the EPA's Safer Choice label.

The odd thing is that although many of the big manufacturers' products would now qualify for the EPA's seal of approval, and for eco-labels from other certifiers such as Green Seal and EcoLogo, the makers often do not bother to apply for them. Nor do they bother to advertise how their products (and for that matter their manufacturing processes) have been made greener. That's because, although a growing proportion of consumers seek out green products, the majority are still more interested in how much they cost and how well they work. The soap giants have perfected their advertising messages over decades to concentrate on these factors, and are loth to change a successful formula.

As a result, producers of green-badged detergents, like Method, have the market for ostentatious virtue to themselves. They are being truthful in telling consumers that their products are safe and environmentally friendly, but most of their bigger rivals, if they chose to, could say just the same. ■

Schumpeter | From corner office to Oval Office

Even a successful business career is no guarantee of political competence



THE front-runners in the race to become the Republican Party's candidate for president of the United States, Carly Fiorina and Donald Trump, share more than mutual disdain. Both believe that their time spent in a corner office, bossing around underlings, posing for photos for the covers of glossy business magazines and overseeing billion-dollar deals, counts as preparation for the presidency. This business-as-brilliance worldview has long been popular among Republicans. Mitt Romney, who ran for president in 2012, pointed to his career running Bain Capital, a successful private-equity firm, as proof that he could run a country.

Businesspeople who build firms from scratch or advance to the top often think they can master anything, including the maelstrom of modern politics. Although both Ms Fiorina and Mr Trump have ruled companies, neither has had the shining career they claim. Mr Trump, who got his start in New York property before taking his golden logo around the world, is regarded with scepticism within his industry, because he overstates his involvement in deals and several of his ventures have filed for bankruptcy. Ms Fiorina, who was fired in 2005 from being CEO of HP, a computing giant, is seen by Silicon Valley tech entrepreneurs as being about as relevant as a 2005 BlackBerry phone.

That has not stopped Ms Fiorina from enjoying a surge of support after her smooth performance in the Republican contenders' debate on September 16th. She likes to advertise that she started as a receptionist before working her way up the corporate ladder, a story so central to her campaign that she bought the web domain *FromSecretaryToCEO.com*. Her ascent was indeed steep. At AT&T, a telecoms operator, she proved an adept and vigorous saleswoman, and was asked to help co-ordinate AT&T's spin-off of Lucent, its equipment-making arm, which was the largest initial public offering on record at the time.

What is more remarkable than Ms Fiorina's speedy rise is that it went on for so long despite some big mistakes. Desperate for growth, she played a role in several deals that destroyed shareholder value and jobs, including a joint venture with Philips, a Dutch technology firm, which resulted in heavy losses. In 1999 she supported Lucent's \$24 billion merger with a rival, Ascend Communications, near the peak of the market. She left Lucent soon afterwards to take over as boss of HP. Had she waited, she

probably would not have been selected for that job. In 2004 nine Lucent executives were charged in a \$1.1 billion accounting scandal related to its "vendor financing" programme, in which the firm lent money to profitless startups and booked those contracts immediately as sales. Ms Fiorina was never accused of wrongdoing, but she was known to encourage vendor financing while she was there.

Having studied philosophy and medieval history as an undergraduate at Stanford, Ms Fiorina arrived at HP with the battle-thirst of a crusader. Unable to shake it up on the inside, she settled on another big deal. In 2001 HP announced a merger with Compaq, doubling down on the personal-computer business at a time when prices and profits were falling across the industry. The deal turned out to be a huge disappointment, and HP underperformed competitors during her tenure. After she was fired in 2005 she was never hired to run another firm. She ran unsuccessfully for a Senate seat in 2010.

Mr Trump may like to gloat about Ms Fiorina's missteps, but his spotless professional image is a *Trump-l'oeil*. He has also stumbled repeatedly, taking on too much debt and seeing at least four of his firms and casinos go bankrupt. These failures are even more significant because he began with a head start thanks to his wealthy property-developer father. Some reckon that if he had simply put his inheritance into the stockmarket he would be richer than he is now.

If Ms Fiorina and Mr Trump are the best that business can offer to politics, then shareholders as well as voters ought to be worried. But even if their careers had been brighter, there is reason to believe that they would find it hard to make the move into political office. Even within business, management skills are not as portable as some would like to believe. Boris Groysberg of Harvard Business School studied the careers of star executives at GE who were lured away by other firms. Those who went to run companies in a different industry or who faced different types of challenge on average achieved annual returns of about -40%.

For every Bloomberg, several Berlusconis

Though America has long had occasional businessmen in high office, including Warren Harding, a publisher who was president in 1921-23, it is not a tradition. The skills demanded in politics and business are different. Politicians need to seek consensus; bosses can demand it. Politicians need to woo their foes; executives can get them fired. Running a large company is complicated, but nowhere near as complex as overseeing a government in which diverse, competing interests must be weighed and reconciled for the public good. For every Michael Bloomberg, a successful businessman who did a good job as New York City's mayor, there is more than one Silvio Berlusconi, a successful media tycoon who may have been brilliant at winning elections but was disastrous as Italy's prime minister, failing to run it in the businesslike manner he had promised.

Voters, like shareholders, want someone who can do the job efficiently. But sometimes, especially when the economy is weak, it is easy to whip up a mood of anti-business populism that can harm even the most moderate CEO-turned-candidate. The qualities that make a good boss, like being willing to cut jobs to make a firm more efficient, seem bad in a political leader. And businessman-politicians' opponents will do their best to exploit this. Just ask Mitt "the Ripper" Romney, as he was dubbed, or Mr Trump, who happily points out every job Ms Fiorina ever cut. ■

**China's consumers**

Doughty but not superhuman

SHANGHAI

China's consumption boom is not enough to succour the world economy

IN THE 1950s Caoyang New Village, then on the outskirts of Shanghai, became one of China's first model settlements for heroic socialist workers. Thousands moved into its plain, lookalike homes to man its state-owned textile mills. Today, rising from the once-modest streets is a gaudy building intended for a new kind of model citizen: consumers.

Global Harbor (pictured) ranks among the world's biggest shopping malls, its floor space equivalent to nearly 70 football fields. It blends ersatz European architecture with a distinctly Asian selection of stores. Beneath its vaulting glass domes and mock renaissance murals are a Hello Kitty café, a half-dozen noodle restaurants, jewellery shops dripping with gold and a theatre used for karaoke contests.

It is only a slight exaggeration to say that China's economic hopes rest on the faux-Corinthian columns of Global Harbor. With the country's decades-old investment boom fast dwindling, it needs consumption to kick in as a new driver of growth. This rebalancing has been talked about for years, but has become more urgent as China's industrial downturn has deepened. The nationwide frenzy of construction is abating, factories are saddled with overcapacity and the northern rustbelt is on the brink of recession. This week a manufacturing index recorded its lowest monthly reading in six years, and the seventh successive contraction.

Amid the extreme pessimism about China's economy in recent months, it is tempting to conclude that rebalancing has failed. Just look at the car market, usually a good shorthand for the health of consumer demand. Automobile sales fell by 3.4% in August compared with a year ago, the third monthly decline in a row. Yet other forms of consumption are accelerating. A property recovery has stoked demand for furniture, home electronics and renovation materials, with sales rising an average of 17% in August from a year earlier. From jewellery to traditional Chinese medicine, buying has picked up in recent months.

Smartphone sales are down in volume terms but soaring by value, as shoppers

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move upmarket. Companies hit by the anti-corruption campaign under Xi Jinping, China's president, are learning to prosper despite the new strictures. Distillers' profits, which fell last year, have rebounded, pulled along by affordable brands for ordinary consumers rather than the exorbitantly priced bottles previously used as bribes for officials.

Overall, China's retail sales have increased by 10.5% in real terms this year, well ahead of economic growth (officially 7% but closer to 6% according to many analysts). There are, as ever, doubts about the reliability of China's data, though in this case it may be that the retail figures are too low. Nicholas Lardy, an expert on Chinese statistics at the Peterson Institute for International Economics, a think-tank, notes that retail numbers do not include services, a glaring omission since surveys show that services account for as much as two-fifths of China's consumer spending.

All this suggests that consumption is picking up at least some of the slack from the industrial downturn. The main reason for the resilience of the Chinese shopper is steady income growth. Wages for migrant workers rose by 10% in the second quarter compared with a year earlier, faster than the national average of 7%. Since low-income earners tend to spend more of their pay than the rich, that has given consumption an extra boost.

One concern is whether this income growth can continue as Chinese industry struggles. Some factories are cutting jobs. But services account for a bigger share of the economy than industry, employ more people and are still growing well.

Structural factors are also at work. With China's working-age population now shrinking, labour is becoming scarcer and employees command higher wages. China's household savings rate of nearly 30%, ►

Consolation prize

Outbound tourism spending, \$bn



► among the world's highest, is also beginning to fall as the population ages and the elderly draw down some of their accumulated wealth. Household consumption as a share of GDP fell to 35.9% in 2010, unusually low even by Asian standards, but has since been clawing its way up.

A generational shift has helped. For older Chinese, the experience of deprivation in Mao's day inhibits spending. At Global Harbor on a Sunday afternoon, those carrying shopping bags or queuing up at restaurants are overwhelmingly in their 20s and 30s. "Our parents are very careful but we want to have more of a balance in life,"

says Lulu Yu. A legal assistant out with her boyfriend to watch a film, she is the picture of a fully grown consumer. Sporting fashionably tinted hair and contact lenses to make her eyes appear bigger, she dangles new high heels from her arm, an impulse purchase on the way to the cinema.

Does this mean that Chinese shoppers are poised to become an engine of the world economy, like their fabled American counterparts? In some ways this has already happened. The number of Chinese tourists going abroad rose by 19.5% last year to 107m. What's more, Chinese tourists spend more than others, snapping up

goods that are cheaper abroad. All this makes China the world's biggest source of tourism dollars (see chart on previous page). In South Korea and Thailand, the increase in spending by Chinese tourists in 2011-14 made up for the fall in exports to China over the same period, according to Capital Economics, a research firm.

But even if Chinese consumption remains healthy, it will not be a cure for ailing global growth. The commodity-exporting countries whose fortunes have hinged on China over the past decade stand mainly to lose, since they produce little in the way of consumer goods that appeal to Chi- ►

Buttonwood | Greys' elegy

Demographic change will have big economic impacts

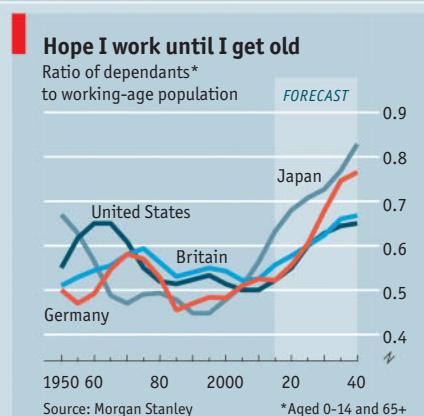
THE population of the developed world is ageing. Everyone knows that it is happening but no one is sure what it will mean. A new paper from Morgan Stanley, part-written by Charles Goodhart, a former member of the Bank of England's rate-setting committee, suggests there may be dramatic economic impacts.

In particular, the paper suggests that the greying population may reverse three long-term trends: a decline in real (inflation-adjusted) interest rates, a squeeze on real wages and widening inequality. That is because those trends were driven by previous demographic shifts; first, the entry of the baby boomers into the workforce after 1970 and second, the more than doubling of the globally integrated workforce as China and eastern Europe joined the capitalist system.

This rise in the labour force produced downward pressure on real wages. It also led to slower improvements in productivity, particularly in Europe. As Mr Goodhart writes, "As labour cheapens, managers spend less effort and invest less capital in order to raise productivity."

The falling cost of labour also produced downward pressure on the prices of manufactured goods, especially as companies relocated to Asia and eastern Europe. This created deflationary pressures, allowing central banks to ease monetary policy. China's relatively closed financial system and lack of a social safety net created a savings glut that added to the downward pressure on real interest rates. In turn, lower real rates pushed up asset prices which, along with the pressure on wages, added to inequality since financial assets tend to be owned by the better-off.

But population growth in the rich world, which was 1% a year in the 1950s, has fallen to 0.5% and should drop to zero



by 2040. Some countries will see declining populations before then. Crucially, the share of the population formed by those of working age is already starting to fall. Indeed, Mr Goodhart reckons that the ageing population will create additional demand for labour, as illnesses such as dementia will require more care workers. This will start to push real wages higher, raising labour's share of national income and reducing inequality.

Real interest rates balance the desired level of savings with the desired level of investment. The elderly save less and spend more of their income than the middle-aged, as a natural part of the life cycle. But even the middle-aged will not save enough, Mr Goodhart says, either because they underestimate the amount they will need for a comfortable retirement or because they expect to depend on the state.

If that analysis shows that savings are bound to fall, what about investment? In a slow-growing economy, there will be fewer profitable investment opportunities. But Mr Goodhart argues that investment will not fall as fast as savings and thus real rates will rise.

What is his rationale? Most investment by households is in the form of housing. The old are usually reluctant to move out of the homes they bought when middle-aged, even though their children have moved out. This will make it more difficult for families to find the space they need; that means residential investment will not fall significantly. As for investment by firms, rising wages will encourage companies to substitute capital for labour. Corporate investment could rise.

The thesis is vulnerable to other changes in the economy. The labour force could be boosted by greater participation by women and the elderly, or by immigration—although Mr Goodhart does not think these factors will be sufficient to compensate for the effect of ageing. The less educated, for example, find it harder to stay in the workforce beyond 65.

This last point also raises the question of whether inequality will fall as he predicts. Demography has not been the only factor behind widening inequality: many economists point to "skill-biased" technological change as a driving force. Low-skilled workers who can be replaced by computers or robots will be more vulnerable in a world of rising real wages; the computer-literate will still command premium salaries.

The people who would most like Mr Goodhart to be right are probably mainstream politicians. The sluggish performance of real wages in advanced economies, along with the signs of rising inequality, have caused them to lose votes to parties on their left and right. If these trends go into reverse, voters might be a bit more content. But the change might not occur fast enough to save some political careers.

►nese buyers. Indeed, for the outside world as a whole, China's shift from investment to consumption will subtract from demand, since making steel involves more imports than stocking malls like Global Harbor. The imported component of Chinese consumption is 11 percentage points lower than that of its investment, according to Goldman Sachs, a bank. A rebalancing of 1 trillion yuan (\$157 billion) from investment to consumption would thus cut Chinese imports by about 110 billion yuan.

This relative self-reliance is likely to increase with time. A study by Bain, a consultancy, found that out of 26 categories of

cheap consumer goods, foreign brands lost market share in 18 last year, including skin cream, milk, fabric softener and toothpaste. In more sophisticated products, domestic companies are also elbowing into territory once dominated by international players. Chinese car brands have accounted for 41% of sales this year, a 3.5 percentage-point increase in market share. Growing consumption of services, whether cosmetic surgery or restaurant meals, only accentuates the home advantage, since most services are delivered locally. China's consumer boom is real. But do not count on it to lift the global economy. ■

can regulators accused it of facilitating trade—much of it linked to commodities—in Sudan, Iran and Cuba, in contravention of American sanctions. The cost of vetting a new customer to ensure compliance with laws on money-laundering and finance for terrorism can reach \$75,000.

Most banks with global operations are slowly but steadily deserting the farthest-flung bits of their empires. Larger clients are the priority now. Jean-François Lambert, the head of commodity trade finance at HSBC, says such retrenchment "is about making smart choices".

That has left opportunities for others. American banks such as Citi, which tend to have less leveraged balance-sheets than European ones since they securitise and sell on most mortgages, are showing some interest. Dubai is trying to set itself up as a trade-finance hub, in competition with Switzerland, where European banks have tended to base trade-financing arms. But lenders in the Gulf are often too small to handle larger transactions.

Non-banks are also taking an interest, says Philip Prowse of Clyde & Co, a law firm. Institutional investors that prize safe and predictable investments, such as insurers and sovereign-wealth funds, have snapped up staff leaving banks. Specialist investment outfits are also hoping for a piece of the action. Scipion Capital, Barak Fund Management and BAF Capital are among those focused on underserved sectors such as fertiliser in Africa or juice concentrates in Latin America.

The new entrants are not subject to any limits on their lending, although they must observe the same "know your customer" rules as banks. But they claim their competitive advantage lies elsewhere. Leaner and more entrepreneurial than clunking multinational banks, the upstarts can meet tighter deadlines: where a big bank might take six months to approve a fertiliser shipment to an African country, Barak boasts it can arrange financing in three weeks.

Funds like these will account for perhaps \$15 billion-20 billion of transactions around the world this year, a tiny but fast-growing slice of the market. Despite the dip in commodity prices and the slowdown in global trade, newly vacated niche markets offer lots of opportunity to prosper.

Banks are now more likely to lend to big commodity-trading houses, such as Vitol and Trafigura, which then go on to lend to their suppliers. That cuts risk, but also banks' exposure to end-clients and the wider business they might provide. Fans of trade financing laud its "real-economy" element: bankers must take old-fashioned business risks rather than making abstract bets on the movements of arcane financial instruments. But much of the regulation heaped on since such arcane instruments sparked the financial crisis has crimped banking in the real economy. ■



Commodity trade finance

Rubber barons

As banks cut loans to commodity producers, others are stepping in

YOU can make a good living buying a kilogram of rubber in the Ivory Coast for 50 cents and selling it in Singapore for \$1.50. But you would need to buy 10m kilos to make the deal worthwhile. Traders who do not have the necessary \$5m must borrow it. Before the financial crisis, big banks like BNP Paribas, Citigroup, HSBC and ING deployed \$14 trillion a year on such deals. But new regulations and swingeing fines for serving shady customers, in addition to falling commodity prices, have caused that figure to halve, leaving a host of new lenders jockeying to fill the gap.

The money that commodity producers borrow to help them dig, grow, store, transport or otherwise market their wares is vital to the global economy. But commodity trade finance, as it is known, is having to find new arteries. It is not that banks have

lost lots of money in trade finance—far from it. The commodities being shifted serve as collateral for the loans used to buy them, limiting the scope for losses. Instead, the business has become an unintended victim of post-crisis regulation.

A cap on leverage at banks has hit European lenders, the powerhouses of trade finance, particularly hard. With limits on how big their balance-sheets can grow, they are focusing on those activities that use up the least capital for the highest return. Returns on commodity trade finance, typically 6-8% a year, fall into the dispensable category. Nice add-ons like foreign-exchange fees help, but not enough.

Perhaps the biggest deterrents are the fines that banks have had to pay for abetting suspect transactions. BNP Paribas coughed up \$9 billion last year after Ameri-

Consumer lending

All credit to them

Cheaper funding is not enough to induce banks to lend more

AFTER credit dried up in America in 2008, the Federal Reserve scrabbled for ways to perk up spending. One trick it tried was to offer banks concessionary funding, hoping they would lend more to consumers and so induce Americans to open their wallets. An NBER working paper* published this week by Sumit Agarwal of the National University of Singapore, Souphala Chomsisengphet of the Treasury Department, Neale Mahoney of the University of Chicago and Johannes Stroebel of New York University looks at data from hundreds of millions of credit cards from 2008 to 2014 to work out why the results were so disappointing.

First, the researchers looked for evidence of pent-up demand for consumer credit. That involves comparing the credit-card balances of people who have very similar credit scores but end up on different sides of the various spending-limit thresholds that lenders impose on cardholders. The scale of excess borrowing by those with the higher limit, the theory runs, gives a sense of how much more those with the lower limit would spend if they could suddenly borrow more. This is important, because banks tend to boost their consumer lending not by lowering interest rates on credit-card balances but by increasing credit limits. (Indeed, the paper assumes that the interest rates banks charge do not change even as their own funding becomes cheaper.)

The most creditworthy customers, it turns out, are the least keen to splurge when extra credit is offered. For every dollar their credit limits increase, they boost their borrowing by \$0.23. Even that is an exaggeration: by further digging through the data, the researchers establish that the borrowers with the best credit records are only shifting their borrowing from card to card to take advantage of improved terms—not borrowing any more in aggregate. At the other end of the scale, those with the muckiest credit histories borrow an extra \$0.58 for every \$1 hike in their credit limit.

But that is not the whole story. The researchers then take a bank's perspective, and ask to whom it makes most sense to lend. Boosting credit limits draws in extra interest payments and charges, but there are costs too. If it is mainly the highest-risk



borrowers who take advantage of higher limits, or if the higher limits encourage more reckless borrowing in general, then default rates will climb, eating away at profit margins.

The researchers use the same trick as before to work out how much more likely people are to default when offered a higher credit limit. Combined with information on revenue from interest and fees, they can then work out the extra profits banks earn from boosting the credit limits of customers of different degrees of creditworthiness. They find that for the riskiest customers, income from fees and interest does not increase quickly enough to compensate for rising default rates among these newly unleashed borrowers.

The researchers calculate that the ratio-

nal response to a reduction of a percentage point in the rate at which banks themselves can raise funds is to boost the credit limits of the 37% of cards issued to those with the highest credit ratings by \$2,203 each. For the 28% of cards with the lowest ratings, in contrast, they should only loosen limits by a measly \$127. In other words, there is a big mismatch between those who are willing to borrow more, and those to whom it makes sense for a bank to lend. That explains why the Fed's efforts to boost the economy had a much smaller effect than expected. All the same, it would be odd to criticise the banks for trying to steer clear of risky borrowers. It was a failure to do that, after all, that got America into the mess from which the Fed was trying to extract it. ■

Monetary policy

Repeat prescription

Weighing the economic benefits of low interest rates against the financial risks

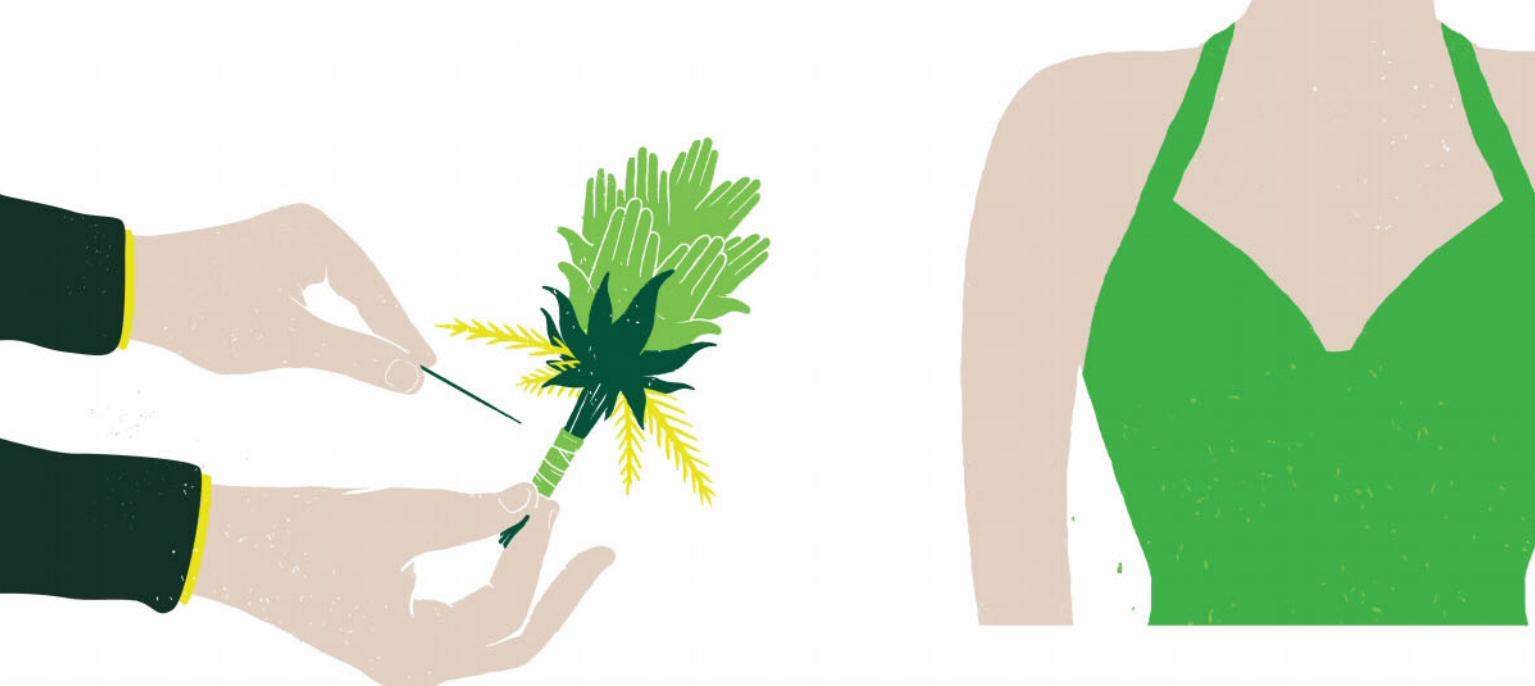
THIS was supposed to be the year when the Federal Reserve would raise interest rates, which have sat between zero and 0.25% since late 2008. Shortly after the Fed allowed rates to lift off, pundits presumed that the Bank of England, which since March 2009 has held its base rate at 0.5%, a three-century low, would follow.

But on September 17th the Fed balked. Andrew Haldane, the Bank of England's chief economist, has meanwhile been airing the prospect of a further cut instead of a rise. Central banks that have raised rates in the past have had to retreat, including the European Central Bank and Sweden's Riksbank, which has since pushed rates into

negative territory (see chart on next page). Yet the longer rates remain so low, the louder the chorus of concern about financial instability, as investors in search of higher returns pile into ever riskier assets.

This week the IMF delivered its riposte to such concerns, in the form of a report that concedes that financial risks are rising, but contends that higher rates are the wrong way to rein them in. Interest rates are low because of the disappointing recovery in advanced economies following the financial crisis, which has kept inflation very low. An additional concern, cited by the Fed on February 17th, is that the emerging economies which sustained glo-

* "Do banks pass through credit expansions? The marginal profitability of consumer lending during the great recession", NBER working paper no. 21567.



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Women and work

The power of parity

MUMBAI

The world would be a much richer place if more women had paying jobs

JOAN RIVERS, a comedian who died last year, did not let chores get in the way of a career in showbusiness. "I hate housework," she joked. "You make the beds, you do the dishes, and six months later, you have to start all over again."

An escape from unpaid drudgery into paid work seems a distant prospect for millions of women. In South Asia, for instance, women carry out up to 90% of unpaid care work, including cooking, cleaning, and looking after children and the elderly. They are far less visible than men in work outside the home. Women make up less than a quarter of the paid workforce in India and account for just 17% of GDP, a measure of output that excludes unwaged work. By contrast, women contribute 41% of GDP in China.

A new report from the McKinsey Global Institute (MGI), a think-tank, underlines how gender inequality in work and society is itself distributed unequally across the world. The number-crunchers at McKinsey calculated gender-parity scores—gauges of how women fare at work and in society in comparison with men—covering over 90% of the world's population. They reckon South Asia (India excluded) is the global laggard with a score of 0.44 (a score of one represents perfect parity between the sexes). Richer parts of the world do a lot better but are still a long way from complete gender equality. North America and Oceania, the best-ranked region, has a score of 0.74.

It is hard to put a number on the social costs of this but the McKinsey folk take a stab at estimating the loss of economic output that goes with it. Other studies find that countries could boost their GDP by 5-20% if women's participation in the workforce was on a par with men's. But that captures only part of the lost output. Even in rich bits of the world, where women are close to half the paid workforce, they tend to work fewer hours than men and in jobs with lower productivity, not to mention lower pay as a result of

pure discrimination. If the gender gaps in participation, hours worked and productivity were all bridged, the world economy would be \$28.4 trillion (or 26%) richer, McKinsey reckons (see chart). The potential gains are proportionately greater in places where fewer women are in paid work. India, for instance, could be 60% richer.

A more realistic target is for countries to close their gender gaps at the rate achieved by the country in their region with the best recent record in this respect. That would add \$12 trillion to global output by 2025, according to McKinsey's calculations, other things being equal (which they almost certainly will not be).

The policies that would quicken a closing of the gender gap at work, such as keeping girls at school for longer and providing better legal protections for women, are in the gift of government. Women whose level of education is on a par with men are more likely to find well-paid jobs in technical professions. They are also more likely to share unpaid work more equitably with men—or, at least, to be able to claim, as Rivers did, that the dullest chores can wait for another six months.

Self harm

Potential GDP increase with gender equality*, 2014, %



Source: McKinsey Global Institute

A long emergency

Benchmark interest rates, %



Source: Haver Analytics

banks, advocates higher interest rates to tame financial excesses. In June, it repeated its call for policy to focus less on short-term economic objectives.

The IMF, which counselled the Fed not to raise rates before its meeting this month, takes the opposite view. The IMF's staff admit that raising interest rates to stave off financial calamity might eventually lessen financial risks by forcing households and firms to reduce their debts and by getting banks to behave more cautiously. But the immediate effect of higher interest rates would be to intensify financial risk, by raising borrowing costs even as weak demand curbs household earnings and corporate profits. Banks would also become riskier in the short term as asset prices fell and bad debts piled up.

The fund's staff highlight the central difficulty in using conventional monetary policy to reduce financial risk: the immediate costs are likely to outweigh the longer-term and uncertain gains, unless the crisis that is thereby forestalled is severe. But crises as big as the one in 2008 are thankfully rare. It would be unwise to direct monetary policy to ward off lesser financial upheavals, in the light of evidence suggesting that even quite large rises in interest rates would make them only a little less likely over the medium term. And if the effect of such tightening were to foster overly low inflation expectations or even to produce a deflationary mindset, that could work against financial as well as price stability by raising the real burden of debt.

The IMF's paper is relevant but it will not settle the debate, not least since the present set of circumstances is so unprecedented. One fear is that the longer interest rates are held at emergency lows, the greater the potential for trouble when they do eventually go up. Several financial markets are distinctly frothy; some worry that the biggest bubble of all is in the one that is supposedly least risky, that of sovereign bonds. But the fund's conclusions will nonetheless be useful ammunition for those arguing that the risk of raising rates now is too great. ■

global growth over the past few years are faltering—a development that would further impede the recovery in the rich world.

The received wisdom among policymakers since the crisis is that central banks needed another tool in order to keep financial conditions, as well as prices, stable. Interest rates, buttressed if necessary by unconventional measures such as quantitative easing, would continue to be used

for macroeconomic purposes. Meanwhile new "macroprudential" policies, such as requiring banks' capital buffers to vary with the business cycle, would be used to prevent financial excess.

However, the new macroprudential tools are untested and some fear that they may be too feeble to work effectively. In particular, the Bank for International Settlements (BIS) in Basel, a forum for central

The Doing Business report

Pulling rank

MUMBAI

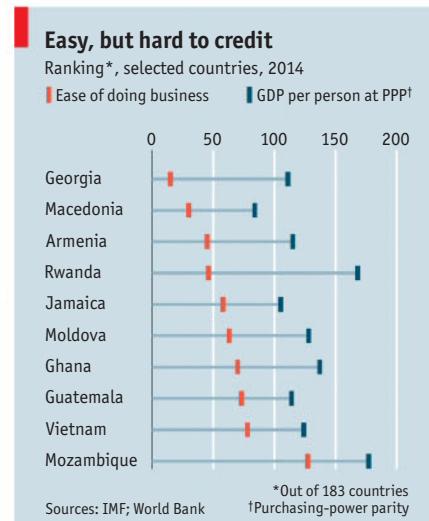
The shortcomings of the World Bank's business-climate index

IN INDIA is mildly obsessed with rankings. More claims for record-breaking feats come from the country than from any other bar America and Britain, according to Guinness World Records, the publishers of a popular compendium of them. Its politicians like to boast that, as China's economy falters, India is (or will soon be) the world's fastest-growing big economy. And this month the commerce department published a ranking of India's states according to the progress they had made on economic reforms. The initiative was inspired by the World Bank's annual Doing Business report, which ranks countries on ten criteria, including the ease of starting a business, paying taxes and registering property. India lies a lowly 142nd out of 189 countries on the World Bank's scorecard, but Narendra Modi, its prime minister, has pledged to propel it into the top 50.

Other leaders have similar ambitions. A favourable spot in the World Bank's list is useful when pitching for foreign-direct investment or aid. Yet when such a measure becomes a target of policy, it may cease to be a reliable guide. Countries might seek to improve their ranking on the Doing Business index by amending regulations in ways that have little substance. Rwanda is often accused of this. It was ranked 46th (ten places above Italy) in the latest World Bank rankings, up from 158th in 2005, despite being one of the world's poorest countries. The gap between the Doing Business ranking and average income is hefty in other places, too (see chart).

Such discrepancies feed concerns about shortcomings in the Doing Business report (about many of which the World Bank is admirably upfront). There are three broad criticisms. One is that the survey has a bias against regulation and taxes. A disputed labour-market gauge that looked at the ease of hiring and firing workers and the flexibility of working hours was cut from the survey in part to counter such criticism. But an indicator related to paying tax survives: it is based on the proportion of profits that firms have to fork over, as well as the number of taxes levied and the time taken to prepare tax returns.

High taxation may hamper the incentive to invest, but a low tax take can also hurt the business climate if it means governments do not have enough revenue to pay for essential infrastructure, education and health care. In a recent paper, Tim Besley of the London School of Economics



found that the average rank of countries with a value-added tax in 2006 was 23 places lower than that of countries without one. Yet VAT is a vital plank of public finances in many countries where income taxes are hard to collect. In most cases, though, less really is more. Costly delays in starting a new firm, registering property or issuing building permits can hardly be the desired goals of regulation.

A second grumble about the World Bank index is that it does not cover important elements of the business climate, such as security, corruption, market size, finan-

cial stability, infrastructure and skills. The gauges that are included are often incomplete. For instance, the survey's credit-market measure is based in part on how well the legal rights of borrowers and lenders are protected; it is not a gauge of how easy it is to get loans or how wisely credit is allocated. The survey captures how troublesome it is to get electricity connected but not how reliable the power supply is.

A third weakness of the report is that it is not based on surveys of businesses. Instead it looks at what is required by a country's laws and regulations and tries to measure objectively how much time and effort it would take for a typical company to comply with them. Such yardsticks may be out of touch with reality.

Poor countries tend to have more rules but may not bother to enforce lots of them. In another recent paper, Mary Hallward-Driemeier of the World Bank and Lant Pritchett of Harvard University compared the Doing Business report with surveys of firms carried out by the World Bank. How business is done in theory and in practice was greatly at odds, they found. The median time to get a building permit in the countries covered was 177 days according to the Doing Business report, but the median firm said it took just 30 days. The experiences of firms varied enormously, even within countries with a low ease-of-doing-business ranking. Some secured permits almost as quickly as peers in high-ranked countries.

Such findings suggest that wherever strict rules are enforced by a weak state, connected firms find ways to escape the red tape. If India is successful in rising up the World Bank's ranking, some of its business people may not notice much of a difference. But if a higher ranking curbs opportunities for graft, the effort to improve will still have been worthwhile. ■



Rwanda, business paradise

Free exchange | Hard-nosed compassion

Cash transfers, rather than handouts in kind, would help aid to refugees go further



THREE are 20m refugees worldwide, most of them children. Some 1.6m Syrians live in Lebanon; even more in Turkey. Humanitarian agencies struggle to meet their basic needs. In July the World Food Programme (WFP) cut assistance to refugees across the Middle East, saying that its regional operation was 81% underfunded. One way to make scarce aid money go further, argues a report* released this month by the Overseas Development Institute and the Centre for Global Development (CGD), two think-tanks, is for donors to give less in kind and more in cash.

Many developing countries hand cash to needy citizens to help them escape poverty. But less than 6% of humanitarian aid last year came in the form of cash. One concern is that refugees, like others in desperate circumstances, may not spend the money well. That's because the stress of poverty engenders a "scarcity mindset", as Sendhil Mullainathan of Harvard University calls it, which can lead to bad decision-making, in part through the overvaluation of present benefits over future ones. Abhijit Banerjee and Esther Duflo of the Massachusetts Institute of Technology cite the example of poor Indians, who often say it is hard to resist buying sugary tea, a costly treat that brightens up dark days but is not nutritious. In theory, giving refugees aid in kind ensures that they are supplied with the goods and services they really need.

Sadly, aid agencies can be even worse at deciding how best to spend their limited resources than the refugees themselves. They typically send a surfeit of some items, and not enough of others. A study by REACH, a UN initiative, found that 70% of Syrian refugees in Iraq had traded handouts from aid agencies for cash, including as much as two-thirds of the rice they received.

Moreover, even if aid in kind does successfully address one debilitating aspect of poverty, by improving decision-making, it may worsen others. Refugees, in the jargon of welfare economics, suffer from a lack of "capabilities". They are typically deprived of many attributes of a decent life, including social acceptance and the right to express themselves politically. Obtaining handouts from aid agencies, which usually involves waiting in long queues in public, is a source of shame for some. Aid in cash, in contrast, can boost refugees' capabilities. It can be dispensed discreetly, especially with the use of pre-paid cards, points out Owen Barder of the CGD, one of the report's authors. With cash in their pockets

people can participate in the life of the community, since they can do things—repay debts, host others and contribute to ceremonies—that aid in kind does not allow.

The question of cash v handouts sparks macroeconomic debate, too. One concern relates to "Dutch disease", a term coined by *The Economist* in 1977, to denote an influx of foreign money that leads to an appreciation of the receiving country's currency. That, in turn, makes exports less competitive. In a paper published in 2009, Arvind Subramanian and Raghuram Rajan, both then of the IMF, found that in the 1980s and 1990s the more aid a country received, the less growth it saw in export-oriented industries. The inflation sparked by the influx of cash can also push the price of basic goods—food and rent, for instance—out of the reach of the host country's host population, fostering discontent.

But giving cash to refugees need not lead to Dutch disease. First, the number of refugees in most countries is tiny relative to the host population. Even in places with lots of them—in Lebanon, about one person in four is a Syrian refugee—an influx of foreign money is unlikely to be a disaster. From 2011 to 2014 humanitarian aid to Lebanon (in cash and in kind) was equivalent to just 1.3% of Lebanese GDP, estimate Mr Barder and Theodore Talbot, also of the CGD. Although an influx of cash may lift inflation, it may also create jobs and growth in the receiving economy.

Second, the alternative—aid in kind—has its own macroeconomic consequences. As goods and services flood in from abroad, local businesses may suffer. One paper, from three wonks at the University of San Francisco, looked at TOMS, a firm that gives a free pair of shoes to a poor child for every pair sold to those of greater means. Those who received shoes from TOMS, naturally enough, were less likely to buy a pair of their own, harming the local shoemaking industry. Other studies suggest that food aid reduces local commodity prices, to the detriment of domestic food producers. (Procuring handouts locally gets around this problem: of the \$1.1 billion-worth of food bought by the WFP in 2012, three-quarters came from developing countries.)

Lighter, faster, harder to steal

The biggest benefits of cash are practical. It is relatively easy to siphon off aid, or rig a procurement contract, but harder to pilfer from electronic transfers. A report on cash assistance to Syrian refugees in Lebanon by the International Rescue Committee, a non-governmental organisation, found no evidence that it bred corruption. Technology can make things better still. Jordan, which houses 1m Syrian refugees, is the first country to use iris-recognition devices to ensure aid goes to the intended recipients, who can only withdraw it after a scan has confirmed their identity.

Cash is also far cheaper to distribute. America's government has estimated that transport and other overheads eat up 65% of spending on emergency food aid. Aid in cash goes much further. Nearly 20% more people could have been helped at no extra cost if everyone received cash instead of food, according to a study of aid in Ecuador, Niger, Uganda and Yemen by researchers then at the International Food Policy Research Institute.

Cash does have its problems: in times of emergency, when shops are shut, it may be useless. But if those 20m refugees are to have any hope of a decent life, it should play a far bigger role. ■

* Studies cited in this article can be found at www.economist.com/cashorkind15



Unmanned aerial vehicles

Welcome to the Drone Age

Miniature, pilotless aircraft are on the verge of becoming commonplace

THE scale and scope of the revolution in the use of small, civilian drones has caught many by surprise. In 2010 America's Federal Aviation Authority (FAA) estimated that there would, by 2020, be perhaps 15,000 such drones in the country. More than that number are now sold there every month. And it is not just an American craze. Some analysts think the number of drones made and sold around the world this year will exceed 1m. In their view, what is now happening to drones is similar to what happened to personal computers in the 1980s, when Apple launched the Macintosh and IBM the PS/2, and such machines went from being hobbyists' toys to business essentials.

That is probably an exaggeration. It is hard to think of a business which could not benefit from a PC, whereas many may not benefit (at least directly) from drones. But the practical use of these small, remote-controlled aircraft is expanding rapidly. After dragging its feet for several years the FAA had, by August, approved more than 1,000 commercial drone operations. These involved areas as diverse as agriculture (farmers use drones to monitor crop growth, insect infestations and areas in need of watering at a fraction of the cost of manned aerial surveys); land-surveying; film-making (some of the spectacular footage in "Avengers: Age of Ultron" was shot from a drone, which could fly lower and thus collect more dramatic pictures than a

helicopter); security; and delivering things (Swiss Post has a trial drone-borne parcel service for packages weighing up to 1kg, and many others, including Amazon, UPS and Google, are looking at similar ideas).

The drones' club

Nor is commerce the only area in which drones are making a mark. A glance at the academic world suggests many more uses await discovery. Because drones are cheap, geographers who could never afford conventional aerial surveys are able to use them to track erosion, follow changes in rivers' sources and inspect glaciers. Archaeologists and historians are taking advantage of software that permits drones fitted with ordinary digital cameras to produce accurate 3D models of landscapes or buildings. This lets them map ancient ruins and earthworks. Drones can also go where manned aircraft cannot, including the craters of active volcanoes and the interiors of caves. A drone operated by the Woods Hole Oceanographic Institution, in Massachusetts, has even snatched breath samples from spouting whales for DNA analysis. And drones are, as might be expected, particularly useful for studying birds. A standard shop-bought drone can, for example, be used unmodified for counting nests high in a forest's canopy.

Public servants, too, are putting drones through their paces. In the case of nest-counting, the idea is not to disturb the

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wildlife in question. In Ottawa officials have taken the opposite approach, with a "goosebuster" drone that is fitted with speakers which play the calls of birds of prey. This has kept a city park on Petrie Island free from the hundreds of geese whose droppings were causing problems. Police in Michigan are considering using drones for mapping the scenes of accidents, so that roads can be reopened more quickly. And drones can save lives, as well as keeping parks clean and traffic moving. In June, for example, Frank Roma, a fireman, rescued two boys from a river in Maine with the help of a drone. The boys were stuck on a rock in the middle of a powerful current. Mr Roma employed a drone to carry a line out to them, along which he passed life jackets that they were able to put on before an inflatable boat went out to perform the tricky manoeuvre of picking them up.

Other roles for drones are more questionable. Their use to smuggle drugs and phones into prisons is growing. Instances have been reported in America, Australia, Brazil, Britain and Canada, to name but a few places. In Britain the police have also caught criminals using drones to scout houses to burgle. The crash of a drone on to the White House lawn in January highlighted the risk that they might be used for acts of terrorism. And in June a video emerged of KATSU, a pseudonymous graffiti artist, using a drone equipped with an aerosol spray to deface one of New York's most prominent billboards.

How all this activity will be regulated and policed is, as the FAA's own flat-footed response has shown, not yet being properly addressed. There are implications for safety (being hit by an out-of-control drone weighing several kilograms would be no joke); for privacy, from both the state and nosy neighbours; and for sheer nuisance—►

for drones can be noisy. But the new machines are so cheap, so useful and have so much unpredictable potential that the best approach to regulation may simply be to let a thousand flyers zoom.

The trailblazers of the field—the Mac and the ps/2 of the drone world, if you like—are the AR and the Phantom. The AR, built by Parrot, a French company, became a bestseller in 2010. It is an easy-to-fly quadcopter that beams video back to a smartphone. Then, in 2013, a Chinese firm called DJI introduced the Phantom. That brought professional-quality aerial photography within the reach of general users. The Phantom's latest incarnation, which costs less than \$2,000, can shoot 20 minutes' worth of footage before it has to land.

How long these two firms will dominate the world of drones is anybody's guess. Andrew Amato of Dronelife.com, an American consultancy, says that the Phantom's limited flight time makes it vulnerable. A drone that could fly for significantly longer—an hour, perhaps—would change the marketplace, as would one that was fitted with "sense-and-avoid" technology that would stop it running into obstacles by mistake. Researchers are busy in both these fields.

Up, up and away

Sense-and-avoid, needed for drones to operate safely in shared airspace without close human supervision, is hard without extra sensors, such as radar. Using a drone's own video camera to recognise objects in real time requires tremendous computing power. Some firms are, however, attempting to do just that. One, Bio Inspired Technologies of Boise, Idaho, is tackling the problem with a hard-wired neural network, a type of device that is good at learning things. This can, the firm's engineers believe, be trained to recognise and avoid aerial obstacles. Alternatively, a conventional, if high-end, computer can be programmed with algorithms pre-designed to recognise and evade threats, by understanding how objects visible to a drone's camera are moving. Percepto, a firm based in Tel Aviv, uses this approach, which it dubs "intelligent vision". Percepto's system might also be used to frame camera shots, by taking into account such things as lighting angles.

Whichever approach—training and learning, or pre-cooked recognition software—wins, drones that are able to understand their environments to even a limited extent will be a lot more useful. They could, for example, recognise their operator and home in on him when required. They might be set loose on frost-damaged roads, to look for potholes. They could be released to cruise over forests to spot fires early, or sent off to seek errant hikers who have failed to report in when expected.

Extended flight time will make all these

putative uses more plausible, and many people are working on that, too. The most common approach is to switch in mid-air from being a helicopter, which relies on power-hungry rotor blades to stay aloft, to being an aeroplane, which gets its lift, more efficiently, from fixed wings.

The SkyProwler, from Krossblade, a firm based in Tempe, Arizona, looks like an aeroplane, but has four rotor blades which flick out of its body for vertical take-offs and landings. Dan Lubrich, the company's boss, claims it is efficient at both hovering and forward flight, and says the transformation mechanism adds only about 10% to the drone's weight. The SkyProwler cruises at 100kph (60mph) and has a flying time of 40 minutes. It can travel up to 25km, hover to shoot video or drop off a package when it arrives, and then return. It should go on sale in December.

Engineers at VTOL Technologies, a company spun out of the University of Reading, in Britain, are working on Flying Wing, a drone with a 120cm wingspan. Four ducted fans propel it forward in level flight, but their attitudes can be adjusted to allow them to provide lift directly. The upshot is a device which can be angled into the wind, to provide yet more lift. That permits it to hover in the way that gulls and other soaring birds do, with little expenditure of energy. VTOL estimates it will be able to do so for an hour, or remain in level flight for more than two hours.

The days of the Parrot/DJI duopoly thus look numbered. Mr Amato extends the comparison to PCs to the time when IBM's grip on its half of the personal-computer duopoly faltered and numerous competitors rushed in. This did not, of course, prevent Apple's business surviving on the back of a loyal and particular group of consumers, but it did mean that small computers became commodity products. Like a drone in a gust of wind, the future of the this market will have many twists and turns—but all the signs suggest that the air will soon be abuzz with machines. ■



Drones in space

Astrobee

MOUNTAIN VIEW

The crew of the space station will soon be getting a new factotum

IT IS not just on Earth that drones have uses (see previous story). Three experimental ones, 22cm across and known as Synchronised Position Hold, Engage, Re-orient, Experimental Satellites, or SPHERES (even though they are actually truncated rhombic dodecahedrons), have been buzzing around the International Space Station since 2006 (see picture above). Now, a new and more advanced version, the Astrobee, is being designed at the Ames Research Centre, a NASA laboratory in Mountain View, California.

The Astrobee, which is scheduled for deployment in 2017, eschews geometric complication: it is a simple, 30cm cube. But it is otherwise a more complex beast than its predecessors. SPHERES can be used only in a designated area of the station, and they rely on beacons to know where they are. The Astrobee, by contrast, will use computer vision to orient itself and to navigate around.

It will be powered differently, too. A space drone does not need to work to keep itself airborne. Like the rest of the space station it is in free-fall and thus appears to float with respect to the station's walls. But it does need motors of some sort to move itself around.

SPHERES use jets of carbon dioxide to propel themselves, and the canisters that this gas is stored in must be shipped to the station, changed by the astronauts and returned to Earth for refilling. The Astrobee, by contrast, will compress air on board, using battery power, and employ that for propulsion. To top up its batteries for this and other purposes, it will also be able to steer itself to one of several recharging docks.

Nor is the Astrobee intended to be a toy. ►

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Astronauts are busy people and the idea is that the new drone will be able to relieve them of several routine tasks, and also serve as a set of virtual eyes for ground controllers to see better what is going on in the station. Chris Provencher, the Astrobee's project manager, observes, for instance, that astronauts must regularly check sound levels in various parts of the station, as it produces noise "like a factory". Too much of this noise can damage the crew's hearing. A full sound check takes a human being two hours to carry out, but is a task that could easily be automated.

The Astrobee could also help keep the station neat and tidy, by tracking down things that have floated away from their proper places. The station's managers are planning to put radio-frequency identification (RFID) tags on every item on board, so that they can be found if they go missing, as thousands already have. The pressurised portion of the station, into which they vanish, is about the size of the interior of a Boeing 747. That means looking for missing items, even RFID-tagged ones, is time-consuming. The Astrobee should be able to lift this burden from the crew.

The new drone might also turn movie-maker. At the moment, flight controllers rely on camcorders held on fixed arms to see what is going on in the station. Sometimes these cameras need to be relocated—yet another tedious task for a busy crew. The Astrobee, though, will have its own high-definition camera that controllers can position at will, if they want to scrutinise something beyond the range of the fixed cameras. Not so much a fly on the wall as a bee off it. ■

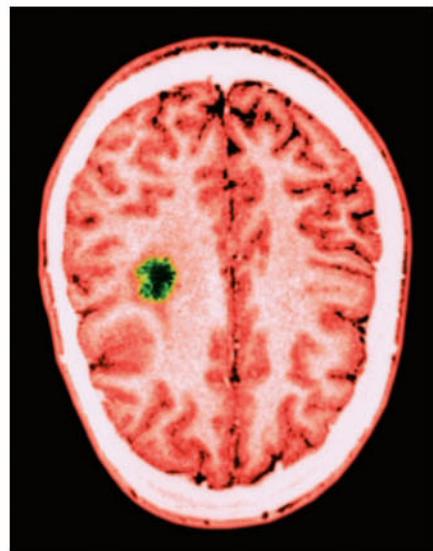
Oncology

Eating themselves to death

Redeploying two old drugs may yield a new treatment for brain cancer

ADIAGNOSIS of glioma is a death sentence. This form of brain cancer (see picture) kills half of those so identified within a year, and almost all within three. The life-extending benefits of existing therapies are measured in a few short months. But that may change, and change soon, if the results of experiments on mice, conducted by Douglas Hanahan of the Swiss Federal Institute of Technology in Lausanne, and reported this week in *Cancer Cell*, can be replicated in people. The reason to hope for such speed is that Dr Hanahan's method employs two drugs already approved for human use, and whose safety profiles are thus well known. Curiously, neither of the drugs in question was developed for use against cancer.

One is imipramine, an antidepressant that boosts levels of serotonin and norepinephrine, two messenger molecules which transmit signals between nerve cells. Dr Hanahan knew from research conducted by others that those who take drugs which work this way seem to have a lower-than-normal incidence of gliomas. He and his colleague Ksenya Shchors thus tried giving imipramine to mice that had been genetically engineered to develop glioma. When they dosed animals whose tumours



Enemy in sight

had developed only recently, they found a marked effect. Treated mice lived for an average of 31 days. Untreated controls lasted a mere 13. On mice with late-stage tumours that had spread throughout the brain, though, imipramine had little effect.

Post-mortem examination of the rodents suggested the drug was working by stimulating a process called autophagy. This is a cell's natural response to lean times, involving breaking down less-crucial cellular components in order to keep the more crucial ones going. Imipramine seemed to be tricking the glioma cells into autophagy, leaving them unable to grow and reproduce.

This deception was the result of one of imipramine's side-effects: stimulation of the production of an intracellular signalling molecule called cyclic AMP. This chemical has many roles, but one is to regulate autophagy, so the next question the two researchers asked themselves was whether that effect could be enhanced still further, causing the tumour cells to digest themselves completely to death.

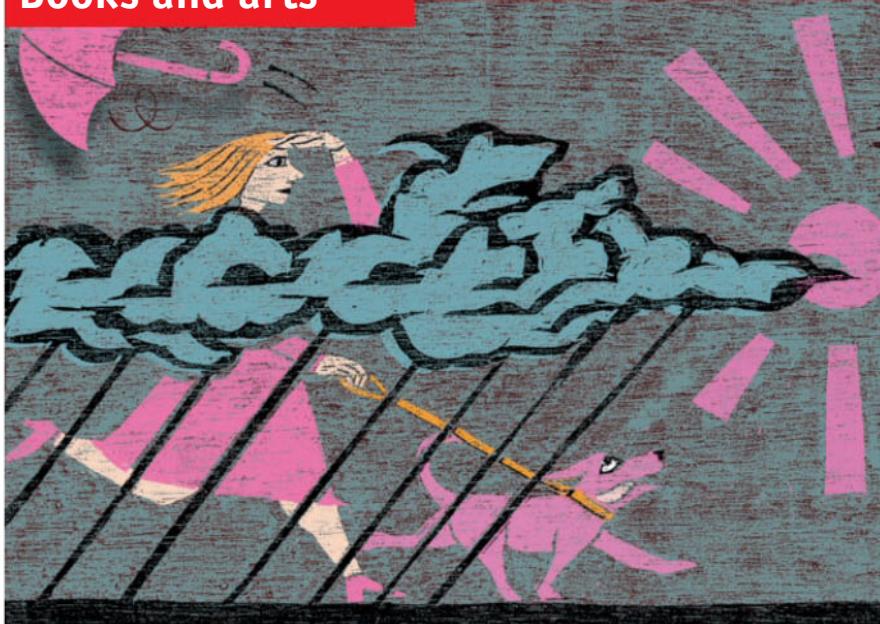
To this end, they turned to a second drug, ticlopidine, which is normally employed as an anticoagulant and which works by stimulating cyclic AMP. When Dr Shchors and Dr Hanahan combined it with imipramine, and gave the mixture to some more mice, they found that those with early-stage tumours lived for 90 days on average—three times as long as on imipramine alone—and even those with late-stage disease lived for 36 days. Subsequent dissection showed that the cells were indeed dying of autophagy.

Whether this combination therapy will have similar effects in people remains to be seen. But because both drugs have been around for a long time, the process of testing them will be greatly simplified. And, if they do work, the prognosis for those with glioma will be greatly improved. ■



The stronger sexton

Marry well and take good care of the kids. Sound advice for a long life and children who are, in turn, good parents. According to Rebecca Kilner of Cambridge University, it also works for sexton beetles (so called because they bury dead animals to feed their young). Unusually for insects, these beetles are attentive parents. Both father and mother feed the larvae. But not every marriage is equal, and not every parent as attentive as the next. That has consequences for the offspring. Neglected youth of both sexes, Dr Kilner reports in *eLife*, go on to be less attentive parents, with smaller broods. Well-raised, attentive fathers who raise larvae with neglected mothers also tend to die younger than their siblings who pair up with more helpful females. Yet, unfairly, deadbeat dads do not seem to inflict similar detrimental effects on their (therefore) longer-suffering mates.



Predicting the future

Uncloaked vision

Forecasting is a talent. Luckily it can be learned

WEAPONS of mass destruction will be found in Iraq. It will rain tomorrow. Jeremy Corbyn cannot possibly become leader of the Labour Party. The Japanese rugby team will never beat South Africa. Human beings cannot resist trying to scry the future. If soothsaying is not the oldest profession, it is certainly one of them.

The Chinese had the I-Ching; the Romans peered at the entrails of sacrificed animals. These days, anyone wanting to know what the future holds can consult everything from telephone psychics to intelligence agencies, bookies, futures markets and media pundits. Their record is far from perfect. But it is difficult to say just how imperfect: for all the importance people attach to forecasting, hardly anyone bothers to keep score.

Philip Tetlock is a rare exception. His most recent book, "Superforecasting", (written with Dan Gardner, a Canadian journalist with an interest in politics and human psychology) is a scientific analysis of the ancient art of divination. Mr Tetlock, who teaches at the Wharton School of Business, became famous for concluding, on the basis of a 20-year forecasting tournament that ran between 1984 and 2004, that the average expert is "roughly as accurate as a dart-throwing chimpanzee". His findings were more subtle than that, and his new book is an attempt to set the record straight. It shows that the future can indeed be foreseen, at least in the near term. More

Superforecasting: The Art and Science of Prediction. By Philip Tetlock and Dan Gardner. Crown; 352 pages; \$28. Random House; £14.99

interestingly, it shows that some people are much better at it than others. And, crucially, it shows that prophecy is not a divine gift, but a skill that can be practised and improved.

The book describes another contest, this time run by America's spies in the wake of the disastrous misadventure in Iraq. Begun in 2011, it posed hundreds of geopolitical questions ("Will Saudi Arabia agree to OPEC production cuts in November 2014?" for instance) to thousands of volunteer participants. A small number of forecasters began to pull clear of the pack: the titular "superforecasters". Their performance was consistently impressive. With nothing more than an internet connection and their own brains, they consistently beat everything from financial markets to trained intelligence analysts with access to top-secret information.

They were an eclectic bunch: housewives, unemployed factory workers and professors of mathematics. But Mr Tetlock and his collaborators were able to extract some common personality traits. Superforecasters are clever, on average, but by no means geniuses. More important than sheer intelligence was mental attitude.

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Borrowing from Sir Isaiah Berlin, a Latvian-born British philosopher, Mr Tetlock divides people into two categories: hedgehogs, whose understanding of the world depends on one or two big ideas, and foxes, who think the world is too complicated to boil down into a single slogan. Superforecasters are drawn exclusively from the ranks of the foxes.

Humility in the face of a complex world makes superforecasters subtle thinkers. They tend to be comfortable with numbers and statistical concepts such as "regression to the mean" (which essentially says that most of the time things are pretty normal, so any large deviation is likely to be followed by a shift back towards normality). But they are not statisticians: unlike celebrity pollsters such as Nate Silver, they tend not to build explicit mathematical models (after all, questions such as "Will Russia officially annex Ukrainian territory in the next three months?" are less suitable for the data-heavy, historical approach that Mr Silver prefers).

But superforecasters do have a healthy appetite for information, a willingness to revisit their predictions in light of new information, and the ability to synthesise material from sources with very different outlooks on the world. They think in fine gradations. Rather than assigning something a probability of 60 to 40, for instance, a superforecaster might, after careful thinking and many small revisions to take account of newfound data, settle on odds of 62 to 38.

Most important is what Mr Tetlock calls a "growth mindset": a mix of determination, self-reflection and willingness to learn from one's mistakes. The best forecasters were less interested in whether they were right or wrong than in why they were right or wrong. They were always looking for ways to improve their perfor-

► mance. In other words, prediction is not only possible, it is teachable.

Talk of growth mindsets, statistical fluency and a complicated world may sound dry and technical. It is not. Mr Tetlock's thesis is that politics and human affairs are not inscrutable mysteries. Instead, they are a bit like weather forecasting, where short-term predictions are possible and reasonably accurate.

What tomorrow brings

The implications of this are far-reaching, and not just for governments and spies. The book opens with a discussion of Archie Cochrane, a Scottish doctor born in 1909, who did more than perhaps anyone else to transform medicine from a black art into a fully fledged science. His insight—deeply controversial half a century ago—was that a doctor's qualifications, eminence and confidence are irrelevant and that the only test of a treatment's effectiveness was whether it could be shown, statistically and rigorously, to work. Mr Tetlock hopes to bring about a similar rigour to how people analyse forecasts of the future.

That will be an uphill struggle. Prediction, like medicine in the early 20th century, is still mostly based on eminence rather than evidence. The most famous forecasters in the world are newspaper columnists and television pundits. Superforecasters make for bad media stars. Caution, nuance and healthy scepticism are less telegenic than big hair, a dazzling smile and simplistic, confident pronouncements. But even if the hoped-for revolution never arrives, the techniques and habits of mind set out in this book are a gift to anyone who has to think about what the future might bring. In other words, to everyone. ■



Fifty shades of clay

bowls of such beauty that nothing lovelier could be imagined..."

All his life Mr de Waal has been just as fascinated by the strength and fragility of porcelain as the old Venetian adventurer ever was. He has built his artistic life from it, and now he has followed its history and his own evolution as an artist along "the white road", calling the journey "a pilgrimage of sorts". This allusive, complex book is a hybrid, neither a simple history, travelogue nor autobiography, but taking in elements of each as the author traces the stories of porcelain's development and his own fascination with those stories.

A word of caution: this book may come as a surprise to those legions of readers whom Mr de Waal entranced with his memoir, "The Hare with Amber Eyes", which came out in 2010. That book interrogated the fate of the author's once-wealthy Austrian Jewish family through a set of Japanese *netsuke*: the only treasures hidden from the Nazis when his forebears escaped Vienna by the skin of their teeth. The book was a bestseller around the world, was translated into more than 20 languages, and brought this "potter" (as he always calls himself—no "ceramicist" he, for all that his work is more likely to appear in a gallery than on a dinner table) fame far beyond the world of art and artists.

But it is porcelain that was and is his true passion, porcelain that he works with day after day in his south London studio, porcelain (ordered in fat white bricks from Limoges) from which his elegant vessels are made. Now that anyone can buy a porcelain creamer shaped like a cow from a department store for less than £20 (\$30), a great many of Mr de Waal's readers may have no idea just how rare and precious this material once was.

First, its composition—it is made from

petuntse, or porcelain stone, which gives the final ceramic its hardness, and kaolin, which brings plasticity—was a secret, a mystery. Which is why it had to be, as Mr de Waal describes, discovered over and over again in different centuries, on different continents. "Together petuntse and kaolin fuse at great heat to create a form of glass that is vitrified: at a molecular level the spaces are filled up with glass, making the vessel non-porous." "Great heat" means "ridiculous" temperatures above 1,300°C, so just building an adequate kiln was a science in itself.

In a meandering journey (however pleasing Mr de Waal's prose, the book could have done with a tighter edit) the author collects fragments of old pottery and scraps of manuscript, and introduces the reader to their makers. Men such as Ehrenfried Walther von Tschirnhaus, who fired the first true porcelain made in Europe, in Dresden, on October 9th 1708; Père d'Entrecolles, a French Jesuit who went to China and learned the secret of their porcelain-making in the 18th century; and, perhaps most endearing, William Cookworthy, a Plymouth apothecary who made the earliest porcelain in England. Mr de Waal considers the quality of whiteness, its meanings in different cultures and different ages; he weighs the balance between use and art, between commerce and culture.

"The Hare with Amber Eyes" was a remarkable accident for Mr de Waal—a swerve off his true path. But that path, a potter's obsession with his material, does not run in a straight line. This book is a "scrapbook", as its author admits. As he travels to China, to Germany, to Cornwall and even to the heart of what was once home to the Cherokee Nation, in North Carolina, he sometimes doubts his haphazard-seeming method. Just occasionally, the reader may, too. "Tenses are fluid and difficult to police," Mr de Waal admits; sometimes that fluidity can seem precious, but sweetly the author expresses his own anxiety about his style, concerned that his method might be "affected", his aim "pious", handily deflecting the critic's barbs.

Yet Mr de Waal's occasional confusion is also reassuring: a reminder that however accomplished an artist, there is never a single story to be told about a material, an art—about anything, perhaps. And for those who think decorative porcelain an insignificant subject, one unconnected with the politics of the modern world, at the end of the book Mr de Waal sets Soviet porcelain on the shelf, and the eerie figurines made as gifts for Nazi officials by the inmates of Dachau concentration camp. He returns to Dresden, shattered by Allied bombs, the firestorm heat a terrible, deadly kiln. "Porcelain warrants a journey, I think," Mr de Waal opines as he sets out. He makes an engaging and erudite companion for the road. ■

A history of porcelain

Chasing perfection

The White Road. By Edmund de Waal. Chatto & Windus; 416 pages; £20. To be published in America by Farrar, Straus & Giroux in November; \$27

AT THE very end of the 13th century Marco Polo returned from Cathay, the old name for China. His "iridescent" tales (the adjective is Edmund de Waal's) revealed a world of wonders, treasures unimaginable in the West. In a city called "Tinju", Polo wrote, "they make bowls of porcelain, large and small, of incomparable beauty. They are made nowhere else except in this city, and from here they are exported all over the world. In the city itself they are so plentiful and cheap that for a Venetian groat you might buy three



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Ushuaia
NEAREST TOWNS: RIO GRANDE
Nestled on the shores of the Beagle Channel (Canal de Beagle) as far south as roads go on earth, lies charismatic Ushuaia. Boasting 1500m Fuegan Andes peaks as a spectacular backdrop, this touristy yet pleasant city attracts all sorts of travelers: the independent backpackers who finally end their journeys here – at the southernmost city in the world. But American biking and outdoor possibilities, there's more than just this quirky novelty at hand as in the area's many lakes and glaciers, as well as partake in the time mountaineering, and those motorcyclists, who finally end their journeys here – at the southernmost city in the world. But there's more than just this quirky novelty at hand as in the area's many lakes and glaciers, as well as partake in the time mountaineering, and those motorcyclists, who finally end their journeys here – at the southernmost city in the world. But originally established as a penal colony, Ushuaia became a key naval base in 1920. Gold, lumber, wool and fishing brought in revenue over the years, but today tourism drives this fast-growing city's economy. In the summer high season (December through March), cruise ships visit almost daily, and the main



The second world war

Fate and furies

The German War: A Nation Under Arms, 1939–1945. By Nicholas Stargardt. Bodley Head; 736 pages; £25. To be published in America by Basic Books in October; \$35

WHEN Germany invaded Poland in 1939, it started what the world has ever since seen self-evidently as a war of German aggression. But Germans had a very different view, as Nicholas Stargardt, a historian at Oxford University, convincingly shows in this depiction of how ordinary Germans experienced "their" war.

In 1939 there were no rallies or marches in Germany, as there had been in 1914. The atmosphere was instead one of muted worry. The Germans had accepted the Nazi propaganda that "they were caught up in a war of national defence, forced upon them by Allied machinations and Polish aggression." Their anxiety only turned into euphoria after the surprisingly easy victories in the early phase of the war, first in Poland then in France.

Embedded journalists accompanied the army and sent home newsreels depicting heroism and adventure. German boys worried that they were "born too late"; the war would surely be over before they saw action. When the war instead continued, Adolf Hitler again succeeded in persuading the Germans that the responsibility for prolonging it lay with the English "plutocrats and slaveholders".

Joseph Goebbels, Hitler's devious propaganda chief, exploited the Anglo-American air war on German cities to deepen the German conviction that they were defending themselves. But as the war became more brutal, especially in the east, this sense of German victimhood became mixed up with German guilt. At home, the Germans observed how Jews were being persecuted. Abroad, soldiers witnessed atrocities against Jews, Poles, Ukrainians and others. "Execution tourists" in the army took photos of massacres and sometimes sent them home. Some had grave misgivings. One soldier wrote to his wife in 1941 that "the Jews are being completely exterminated," and closed with a reminder not to tell their son.

Gradually, a new conviction spread: that this genocidal war "must never come home to Germany". For, just as the Germans gave no mercy, so they could also expect none. Goebbels made sure that no details of the Holocaust were ever reported. Instead, Mr Stargardt argues, the German press "hinted at what people already knew, fostering a sense of collusive semi-secrecy." The resulting "spiral of silence"

led to a sense of quasi-complicity.

This is deeply psychological stuff. One of the questions that concerns Mr Stargardt is why the Germans fought on so obstinately to the bitter end, long after it was obvious that victory was impossible. The answer lies in this growing mixture of guilt and victimhood. Goebbels effectively portrayed the fire bombings of German cities as "Jewish terror", with the implication that the Allies, manipulated by global Jewry, were exacting revenge for German crimes. Even those Germans who had had qualms about German atrocities earlier grew harder as the war worsened, accepting Hitler's apocalyptic alternative of victory or annihilation.

Mr Stargardt has come close to writing a ground-breaking book. And yet he falls just short. His method of using letters and diaries of ordinary Germans yields unexpected insights, both into the Germans' humanity and their turn to barbarism. Much of their daily energy was focused not on the fate of the Jews, but on matters of more immediate concern, such as food and sex. And yet Germany's Holocaust and self-destruction are always the backdrop, if never quite forming an integral part of Aryan Germans' experience.

The author seems to be suggesting that tacit mass collusion in history's greatest crime turned Germans, through fear of their own looming retaliatory victimisation, into fanatics. But this grand hypothesis emerges only in fragmented form from these individual accounts. To get even this far, readers have to make great efforts to join the dots. Many will be left yearning for more help from the author. ■



Stones of contention

Islamic State

Inside account

The ISIS Apocalypse: The History, Strategy, and Doomsday Vision of the Islamic State. By William McCants. St. Martin's Press; 256 pages; \$26.99

MOST people saw the Arab spring as a failed democratic revolution. Jihadists viewed the various uprisings very differently. For them, the events in 2011–12 and their turbulent aftermath heralded the advent of the Mahdi, the Muslim messiah, and the great battles that would accompany the End of Days, the Islamic equivalent of Armageddon. They sensed a double opportunity. Hastening the apocalypse was a sharp spur to action and recruitment; the Arab spring had helpfully created power vacuums that they could rush to fill.

These two themes—apocalypse and jihad—come together in William McCants's fascinating study of Islamic State (is). Half a dozen recent books have recounted how the group emerged in Iraq in 2006, established itself in Syria in 2011 and swept back into Iraq last year. Mr McCants is an Islamic specialist at Brookings Institution, a Washington think-tank, and co-editor of a respected website (jihadica.com). His contribution is to provide something close to an inside account by drawing on leaked or captured e-mails and other messages.

IS and the global movement from which it sprang emerge as a sprawling, quarrelsome, frequently dysfunctional extended family. In its first incarnation, the self-styled state was a disaster. Its figurehead emir, an Iraqi, was a former small-town policeman with no religious qualifications. Its real leader, an Egyptian, was rash and incompetent. By the time they were killed by American and Iraqi forces in 2010, IS was a spent force—and a cause of deep embarrassment to its anxious parent, the al-Qaeda leader, Osama bin Laden. He had vainly urged it to calibrate its violence and win local hearts and minds before rushing to declare a state. He watched helplessly as it failed—and, in doing so, besmirched his brand.

Mr McCants sets out to analyse exactly how IS revived to become the fearsome thing it is today. His explanation is essentially threefold. First, a more credible leadership emerged. The new emir, Abu Bakr al-Baghdadi, claimed descent from the Prophet, had a degree in Koranic studies, and was shrewd and well-connected. Helping him consolidate power was the sinister Hajji Bakr, a bald, white-bearded former colonel in Saddam Hussein's army, whose first act was a Saddam-like purge of potential rivals.

▶ Second, events in Syria between 2011 and 2014 played into is's hands, giving it a powerful new base and precipitating the final break with al-Qaeda. Their divorce—Mr McCants calls it the “biggest split ever in the global jihadist community”—left is pre-eminent and al-Qaeda gravely weakened.

Third, is's proclamation in 2014 of the restoration of the caliphate—in Islamic prophecy, one of the portents of the apocalypse—proved to be a masterstroke. Bin Laden had paid lip-service to the idea but had never taken it very seriously. When is threw caution to the wind, many Muslims around the world rushed to fight under its black banner. The movement soon had an estimated 20,000 foreign fighters. ■

Mr McCants adds much unexpected detail. At one point Bin Laden lectures leaders of al-Shabab, his Somali affiliate, on drought and climate change, urging them not to cut down so many trees for charcoal. It seems he also came to regret calling his movement al-Qaeda (which translates as “the Base”) as not being Islamic enough a name. As to the future, Mr McCants wonders if is's grotesque brutality will prove its undoing. Not necessarily. Up to a point, he argues, brutality works. Jihadist groups are defeated only when the local balance of forces shifts. is will eventually crumble, he thinks, but even if it does, others will come forward to emulate it. A grim prospect. ■

face and interior, but it overturns centuries of artistic tradition in which the human figure was deemed to be the only subject worthy of the sculptor's attention.

Even more ground-breaking are the constructed sculptures Picasso made a few years later from studio scraps and found objects, beginning with the revolutionary “Still Life with Guitar” (1912), a work pieced together out of cardboard, wire, string and other junk. Made with the exuberance of a young child set loose with a pot of glue and pair of scissors, this jerry-rigged wall relief launched a revolution. Barely two feet tall, it is the humble ancestor to every monstrous welded metal assemblage bestriding today's urban landscapes.

“Picasso Sculpture” abounds in diminutive works that contain the seeds of enormous ideas. The delicate little wire and sheet-metal maquettes that Picasso fabricated with the help of his childhood friend Julio González—intended for a monument to Guillaume Apollinaire, a French poet and critic—marked another transformation in the way sculpture is conceived, one in which void as well as solid is given a starring role and where the sculpture merges seamlessly with its environment.

In sculpture, even more than in painting, Picasso refused to settle on a signature style; he seemed determined to reinvent the wheel with each change of mood or of mistress. The painted iron “Woman in the Garden” (1929) is all dangerous spikes, a frightening vision of the woman as predator. But only a year or two later, under the spell of a new companion, Marie-Thérèse Walter, Picasso went in the opposite direction, modelling female forms of voluptuous, pneumatic softness.

What allowed Picasso to reinvent sculpture with such ease was that he didn't necessarily care what something looked like; far more important for him were the formal and conceptual possibilities it opened up. No one could call his “Still Life with Guitar” beautiful, or even well made. The piece has a slapdash quality that was transformative in itself, knocking art off its pedestal and setting the stage for generations of artists who preferred spontaneity to polish.

The exhibition also reveals that, when he wanted, Picasso could create ravishing forms of unsettling power. Few works convey existential dread as effectively as his “Death's Head” (1941), made during the darkest days of the war, or convey human dignity in the face of adversity as hauntingly as “Man with a Lamb” (1943), a work that looks distinctly modern but that conveys the timeless authority of a Sumerian votive figure.

Though many of these works are no longer unfamiliar territory, “Picasso Sculpture” still manages to surprise and confound, reaffirming his stature as a magician of unprecedented inventiveness. ■

Picasso, the sculptor

Master of surprises

NEW YORK

Why the Spanish artist was as inspiring a sculptor as he was a painter

IN 1971 the 90-year-old Pablo Picasso described a catalogue of his sculpture as the chronicle of “an unknown civilisation”. The mystery was mostly of his own making. Trained as a painter, he turned to sculpture from an inner compulsion, using the medium to explore the deeper reaches of his psyche, but keeping the results largely hidden from public view.

These works were usually improvisational, radically experimental and endowed by their creator with an almost fetishistic power. Hence his refusal to lend any of his sculptures to “Picasso: A 75th Anniversary Exhibition” that the Museum of Modern Art (MOMA) in New York put on in 1957. He hated to part, even temporarily, with these totems of his own devising. As recently as 2000, a retrospective at the Centre Pompidou in Paris still maintained that Picasso's sculptures were the “best kept secret of the 20th century.”

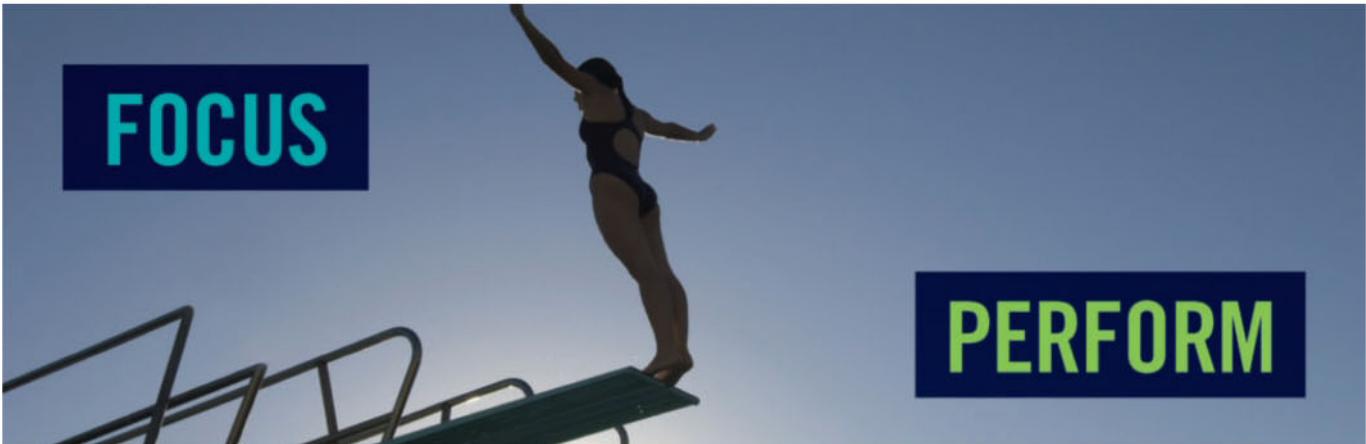
Whereas the public remained more-or-less unaware of Picasso's sculptural achievement, artists had long been in on the secret. When Umberto Boccioni first saw Picasso's faceted Cubist “Head of a Woman” (1909)—one of the few early sculptures to be displayed in a gallery—he suddenly saw how to infuse static form with Futurist dynamism, conveying a sense of the figure opening up in space and moving through time. In 1914 Vladimir Tatlin, a Ukrainian-born artist and architect, paid a visit to Picasso's studio where he recalled seeing a “violin sawn up into pieces, hanging by threads on various planes.” Returning to Russia, he radically transformed how he worked. Alberto Giacometti and Marcel Duchamp also learned



Under our noses all along

vital lessons from Picasso's sculptures.

One of the most exhilarating aspects of “Picasso Sculpture”, a new show that has just opened at MOMA, is to see with what nonchalance he manages to overturn millennia of artistic practice. Nothing in his earliest work—bronze figures sensitively modelled but traditionally conceived, or primitive totems crudely hacked out of wood—prepares viewers for the subversive “Apple” (1909), a modest form of carved plaster in which the fruit has been invested with an unexpected monumentality through cubist facetting. Not only does this humble object upset traditional distinctions between solid and void, sur-



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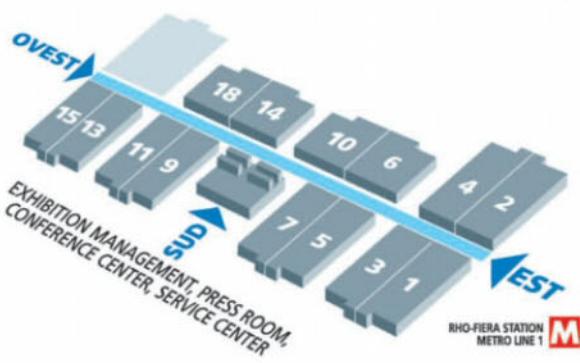
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Inspiration & Action



H.E. Sheikh Hasina, Prime Minister of Bangladesh
for outstanding leadership on the frontline of climate change.
Policy Leadership



Paul Polman
for challenging business norms to show that sustainable, equitable and environmentally-conscious business is smart business.
Entrepreneurial Vision



Natura Brasil
for unparalleled commitment to trailblazing sustainable business models.
Entrepreneurial Vision



National Geographic Society
for over a century of life-changing science, exploration and storytelling.
Science & Innovation



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% change on year ago

| | Gross domestic product | | | Industrial production latest | Consumer prices latest 2015 [†] | Unemployment rate, % | Current-account balance | | Budget balance % of GDP 2015 [†] | Interest rates, % 10-year gov't bonds, latest | Currency units, per \$ Sep 23rd | Year ago | |
|----------------|------------------------|--------------------|-------------------|------------------------------|--|----------------------|-------------------------|----------------------------|---|---|---------------------------------|---------------------|--------|
| | latest | qtr* | 2015 [†] | | | | latest 12 months, \$bn | % of GDP 2015 [†] | | | | | |
| United States | +2.7 | 02 | +3.7 | +2.4 | +0.9 Aug | +0.2 Aug | +0.4 | 5.1 Aug | -429.0 Q2 | -2.6 | -2.6 | 2.13 | - |
| China | +7.0 | 02 | +7.0 | +6.9 | +6.1 Aug | +2.0 Aug | +1.5 | 4.0 Q2 [§] | +291.4 Q2 | +3.0 | -2.7 | 3.19 ^{§§} | 6.38 |
| Japan | +0.8 | 02 | -1.2 | +0.8 | nil Jul | +0.3 Jul | +0.7 | 3.3 Jul | +107.8 Jul | +2.7 | -6.8 | 0.33 | 120 |
| Britain | +2.6 | 02 | +2.7 | +2.5 | +0.8 Jul | nil Aug | +0.2 | 5.5 Jun ^{††} | -180.5 Q1 | -4.8 | -4.4 | 1.92 | 0.66 |
| Canada | +1.0 | 02 | -0.5 | +1.4 | -2.7 Jun | +1.3 Aug | +1.1 | 7.0 Aug | -48.5 Q2 | -2.9 | -1.8 | 1.49 | 1.33 |
| Euro area | +1.5 | 02 | +1.4 | +1.4 | +1.9 Jul | +0.1 Aug | +0.2 | 10.9 Jul | +316.9 Jul | +2.6 | -2.1 | 0.60 | 0.89 |
| Austria | +0.5 | 02 | -2.6 | +0.7 | -0.1 Jun | +1.0 Aug | +1.0 | 5.8 Jul | +6.5 Q1 | +1.4 | -2.1 | 0.88 | 0.89 |
| Belgium | +1.3 | 02 | +1.7 | +1.3 | -4.5 Jun | +0.9 Aug | +0.4 | 8.5 Jul | +12.1 Mar | +1.7 | -2.6 | 0.94 | 0.89 |
| France | +1.1 | 02 | nil | +1.1 | -0.8 Jul | nil Aug | +0.2 | 10.4 Jul | -6.0 Jul [‡] | -0.7 | -4.1 | 0.98 | 0.78 |
| Germany | +1.6 | 02 | +1.8 | +1.7 | +0.4 Jul | +0.2 Aug | +0.4 | 6.4 Aug | +280.5 Jul | +7.6 | +0.7 | 0.60 | 0.89 |
| Greece | +1.7 | 02 | +3.7 | +0.5 | -1.3 Jul | -1.5 Aug | -1.1 | 25.2 Jun | -1.3 Jul | +2.5 | -4.1 | 8.33 | 0.89 |
| Italy | +0.7 | 02 | +1.3 | +0.6 | +2.7 Jul | +0.2 Aug | +0.2 | 12.0 Jul | +42.6 Jul | +2.0 | -2.9 | 1.74 | 0.89 |
| Netherlands | +1.8 | 02 | +0.8 | +1.8 | +0.6 Jul | +0.8 Aug | +0.4 | 8.5 Aug | +85.3 Q2 | +9.2 | -1.8 | 0.78 | 0.89 |
| Spain | +3.1 | 02 | +4.1 | +3.0 | +5.9 Jul | -0.4 Aug | -0.3 | 22.2 Jul | +15.8 Jun | +0.8 | -4.4 | 1.96 | 0.89 |
| Czech Republic | +4.4 | 02 | +4.0 | +3.4 | +4.6 Jul | +0.3 Aug | +0.3 | 6.2 Aug [§] | +2.4 Q2 | -0.1 | -1.8 | 0.72 | 24.3 |
| Denmark | +2.0 | 02 | +0.9 | +1.8 | +0.8 Jul | +0.5 Aug | +0.7 | 4.6 Jul | +21.1 Jul | +6.8 | -2.9 | 0.87 | 6.67 |
| Norway | +2.2 | 02 | -0.4 | +0.7 | +4.0 Jul | +2.0 Aug | +1.6 | 4.3 Jul ^{‡‡} | +37.8 Q2 | +9.3 | +6.0 | 1.65 | 8.29 |
| Poland | +3.6 | 02 | +3.6 | +3.4 | +5.3 Aug | -0.6 Aug | +0.2 | 10.0 Aug [§] | -1.8 Jul | -1.4 | -1.5 | 2.82 | 3.77 |
| Russia | -4.6 | 02 | na | -3.6 | -4.2 Aug | +15.8 Aug | +14.8 | 5.3 Aug [§] | +68.7 Q2 | +4.9 | -2.8 | 11.01 | 66.5 |
| Sweden | +3.3 | 02 | +4.6 | +2.7 | -1.9 Jul | -0.2 Aug | +0.1 | 6.4 Aug [§] | +35.1 Q2 | +6.5 | -1.2 | 0.70 | 8.43 |
| Switzerland | +1.2 | 02 | +1.0 | +0.7 | -2.5 Q2 | -1.4 Aug | -1.0 | 3.3 Aug | +60.9 Q2 | +7.2 | +0.2 | -0.07 | 0.98 |
| Turkey | +3.8 | 02 | na | +2.8 | +1.5 Jul | +7.1 Aug | +7.3 | 9.6 Jun [§] | -45.0 Jul | -4.7 | -1.6 | 10.72 | 3.04 |
| Australia | +2.0 | 02 | +0.7 | +2.4 | +1.2 Q2 | +1.5 Q2 | +1.7 | 6.2 Aug | -47.4 Q2 | -3.2 | -2.4 | 2.67 | 1.43 |
| Hong Kong | +2.8 | 02 | +1.6 | +2.4 | -1.3 Q2 | +2.5 Aug | +3.1 | 3.3 Aug ^{‡‡} | +7.4 Q2 | +2.8 | nil | 1.63 | 7.75 |
| India | +7.0 | 02 | +7.0 | +7.5 | +4.2 Jul | +3.7 Aug | +5.3 | 4.9 2013 | -25.9 Q2 | -1.2 | -3.8 | 7.72 | 66.3 |
| Indonesia | +4.7 | 02 | na | +4.8 | +5.7 Jul | +7.2 Aug | +6.4 | 5.8 Q3 [§] | -21.6 Q2 | -2.4 | -2.0 | 9.37 | 14,716 |
| Malaysia | +4.9 | 02 | na | +5.5 | +6.1 Jul | +3.1 Aug | +2.6 | 3.1 Jun [§] | +8.8 Q2 | +3.4 | -4.1 | 4.24 | 4.38 |
| Pakistan | +5.5 | 2015 ^{**} | na | +5.7 | +4.7 Jul | +1.7 Aug | +4.1 | 6.0 2014 | -2.6 Q2 | -0.6 | -5.1 | 9.15 ^{†††} | 105 |
| Philippines | +5.6 | 02 | +7.4 | +6.6 | -0.5 Jul | +0.6 Aug | +2.6 | 6.5 Q3 [§] | +11.7 Jun | +4.1 | -1.9 | 3.73 | 46.9 |
| Singapore | +1.8 | 02 | -4.0 | +3.1 | -6.1 Jul | -0.8 Aug | +0.4 | 2.0 Q2 | +69.5 Q2 | +21.3 | -0.7 | 2.68 | 1.43 |
| South Korea | +2.2 | 02 | +1.3 | +2.6 | -3.3 Jul | +0.7 Aug | +0.9 | 3.4 Aug [§] | +104.3 Jul | +7.8 | +0.4 | 2.13 | 1,195 |
| Taiwan | +0.5 | 02 | -6.6 | +3.4 | -5.5 Aug | -0.4 Aug | +0.2 | 3.7 Aug | +72.8 Q2 | +12.8 | -1.1 | 1.18 | 33.0 |
| Thailand | +2.8 | 02 | +1.5 | +3.5 | -5.3 Jul | -1.2 Aug | +0.8 | 1.0 Jul [§] | +20.8 Q2 | +2.4 | -2.0 | 2.83 | 36.2 |
| Argentina | +2.3 | 02 | +2.0 | nil | +0.6 Jul | — *** | — | 6.6 Q2 [§] | -6.0 Q1 | -1.4 | -3.6 | na | 9.39 |
| Brazil | -2.6 | 02 | -7.2 | -1.9 | -9.0 Jul | +9.5 Aug | +8.6 | 7.5 Jul [§] | -84.5 Aug | -4.1 | -6.0 | 16.85 | 4.18 |
| Chile | +1.9 | 02 | nil | +2.8 | -1.7 Jul | +5.0 Aug | +3.9 | 6.6 Jul ^{‡‡} | -0.3 Q2 | -1.2 | -2.2 | 4.65 | 704 |
| Colombia | +3.0 | 02 | +2.4 | +3.3 | +0.3 Jul | +4.7 Aug | +4.2 | 8.8 Jul [§] | -20.8 Q2 | -6.7 | -2.1 | 7.88 | 3,119 |
| Mexico | +2.2 | 02 | +2.0 | +2.5 | +0.7 Jul | +2.6 Aug | +2.9 | 4.3 Jul | -25.3 Q2 | -2.5 | -3.4 | 5.97 | 17.1 |
| Venezuela | -2.3 | 03 | +10.0 | -4.2 | na | +68.5 Dec | +76.4 | 6.6 May [§] | +10.3 Q3 | -1.8 | -16.5 | 10.48 | 6.30 |
| Egypt | +4.3 | 04 | na | +4.2 | +6.0 Jul | +7.9 Aug | +10.0 | 12.7 Q2 [§] | -12.2 Q2 | -1.4 | -11.0 | na | 7.83 |
| Israel | +1.8 | 02 | +0.1 | +3.3 | +1.1 Jul | -0.4 Aug | -0.2 | 5.3 Jul | +10.2 Q2 | +4.9 | -2.8 | 2.23 | 3.95 |
| Saudi Arabia | +3.5 | 2014 | na | +2.7 | na | +2.1 Aug | +2.7 | 5.7 2014 | +39.7 Q1 | -2.4 | -12.1 | na | 3.75 |
| South Africa | +1.2 | 02 | -1.3 | +1.8 | +5.6 Jul | +4.6 Aug | +4.8 | 25.0 Q2 [§] | -15.6 Q2 | -5.1 | -3.8 | 8.42 | 13.9 |

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, August 27.01%; year ago 38.49%. ^{†††}Dollar-denominated bonds.

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|---------------------------|-------------------|-------------|---|-------|
| | Index Sep 23rd | one week | Dec 31st 2014 in local currency terms | in \$ |
| United States (DJIA) | 16,279.9 | -2.7 | -8.7 | -8.7 |
| China (SSEA) | 3,263.7 | -1.2 | -3.7 | -6.4 |
| Japan (Nikkei 225) | 18,070.2 | -0.6 | +3.5 | +3.0 |
| Britain (FTSE 100) | 6,032.2 | -3.2 | -8.1 | -10.3 |
| Canada (S&P TSX) | 13,383.7 | -2.8 | -8.5 | -20.3 |
| Euro area (FTSE Euro 100) | 1,028.2 | -5.0 | -0.8 | -8.7 |
| Euro area (EURO STOXX 50) | 3,080.0 | -5.3 | -2.1 | -9.8 |
| Austria (ATX) | 2,205.1 | -3.8 | +2.1 | -6.0 |
| Belgium (Bel 20) | 3,354.9 | -3.6 | +2.1 | -5.9 |
| France (CAC 40) | 4,432.8 | -4.6 | +3.7 | -4.4 |
| Germany (DAX)* | 9,612.6 | -6.0 | -2.0 | -9.7 |
| Greece (Athex Comp) | 668.5 | -3.5 | -19.1 | -25.5 |
| Italy (FTSE MIB) | 21,068.9 | -4.5 | +10.8 | +2.1 |
| Netherlands (AEX) | 419.1 | -4.4 | -1.3 | -9.1 |
| Spain (Madrid SE) | 957.7 | -5.1 | -8.1 | -15.4 |
| Czech Republic (PX) | 960.7 | -4.2 | +1.5 | -4.5 |
| Denmark (OMXCB) | 839.8 | -0.8 | +24.3 | +14.3 |
| Hungary (BUX) | 20,687.2 | -2.0 | +24.4 | +16.1 |
| Norway (OSEAX) | 615.3 | -2.1 | -0.7 | -10.3 |
| Poland (WIG) | 50,160.5 | -2.7 | -2.4 | -8.3 |
| Russia (RTS, \$ terms) | 782.1 | -6.6 | +8.2 | -1.1 |
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| India (BSE) | 25,823.0 | -0.5 | -6.1 | -10.3 |
| Indonesia (JSX) | 4,244.4 | -2.0 | -18.8 | -31.3 |
| Malaysia (KLCSE) | 1,613.2 | -2.1 | -8.4 | -26.3 |
| Pakistan (KSE) | 32,822.8 | -1.6 | +2.2 | -1.6 |
| Singapore (STI) | 2,845.7 | -0.8 | -15.4 | -21.4 |
| South Korea (KOSPI) | 1,944.6 | -1.6 | +1.5 | -6.3 |
| Taiwan (TWI) | 8,193.4 | -1.7 | -12.0 | -15.3 |
| Thailand (SET) | 1,375.2 | -0.5 | -8.2 | -16.5 |
| Argentina (MERV) | 9,521.3 | -11.0 | +11.0 | +0.1 |
| Brazil (BVSP) | 45,340.1 | -6.6 | -9.3 | -41.6 |
| Chile (IGPA) | 18,232.2 | -1.8 | -3.4 | -16.4 |
| Colombia (IGBC) | 9,248.6 | -4.4 | -20.5 | -39.1 |
| Mexico (IPC) | 43,042.4 | -0.5 | -0.2 | -13.6 |
| Venezuela (IBC) | 12,266.8 | -7.8 | +218 | na |
| Egypt (Case 30) | 7,285.3 | +0.3 | -18.4 | -25.5 |
| Israel (TA-100) | 1,380.8 | -0.9 | +7.1 | +5.3 |
| Saudi Arabia (Tadawul) | 7,442.7 | -1.1 | -10.7 | -10.6 |
| South Africa (JSE AS) | 50,381.6 | -1.3 | +1.2 | -15.0 |

Unemployment rates

On average, unemployment rates among foreign-born people in the OECD are higher than those among the native-born population. Sectors such as construction and services, which offer lots of job opportunities to migrants, were hit hard in countries like Greece and Spain. But many places are creating jobs for non-natives again. The employment rate of migrants in the OECD increased by 1.3 percentage points in 2011-14, faster than the rise for native-born workers. In America, the foreign-born unemployment rate, particularly among migrant males and those with low education levels, was lower in 2014 than that for the native-born, thanks to a boom in areas like construction and natural resources.

By place of birth, 2014, %



Source: OECD

*2013

Other markets

| | % change on | | | |
|---------------------------------|----------------------|-------------|---|-------|
| | Index Sep 23rd | one week | Dec 31st 2014 in local currency terms | in \$ |
| United States (S&P 500) | 1,938.8 | -2.8 | -5.8 | -5.8 |
| United States (NAScomp) | 4,752.8 | -2.8 | +0.4 | +0.4 |
| China (SSEB, \$ terms) | 310.0 | +1.6 | +9.7 | +6.6 |
| Japan (Topix) | 1,462.4 | -0.7 | +3.9 | +3.4 |
| Europe (FTSEurofirst 300) | 1,366.2 | -4.3 | -0.2 | -8.1 |
| World, dev'd (MSCI) | 1,600.8 | -3.2 | -6.4 | -6.4 |
| Emerging markets (MSCI) | 808.2 | -1.8 | -15.5 | -15.5 |
| World, all (MSCI) | 386.5 | -3.1 | -7.3 | -7.3 |
| World bonds (Citigroup) | 879.4 | +0.3 | -2.5 | -2.5 |
| EMBI+ (JP Morgan) | 700.4 | -0.3 | +1.2 | +1.2 |
| Hedge funds (HFRX) | 1,201.2 [§] | nil | -1.4 | -1.4 |
| Volatility, US (VIX) | 21.3 | +21.4 | +19.2 (levels) | |
| CDSs, Eur (iTRAXX) [†] | 80.0 | +13.5 | +12.0 | +3.2 |
| CDSs, N Am (CDX) [†] | 83.7 | +7.6 | +17.6 | +17.6 |
| Carbon trading (EU ETS) € | 8.0 | -2.1 | +9.9 | +1.2 |

Sources: Markit; Thomson Reuters. *Total return index.

†Credit-default-swap spreads, basis points. [§]Sept 22nd.

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

The Economist commodity-price index

| | 2005=100 % change on | | | |
|-------------------------|----------------------|-----------|-----------|----------|
| | Sep 15th | Sep 22nd* | one month | one year |
| Dollar Index | | | | |
| All Items | 131.5 | 129.2 | -1.0 | -15.4 |
| Food | 151.2 | 149.0 | -1.8 | -9.8 |
| Industrials | | | | |
| All | 111.1 | 108.6 | +0.2 | -22.4 |
| Nfa [†] | 109.6 | 107.6 | -2.9 | -16.3 |
| Metals | 111.7 | 109.0 | +1.6 | -24.8 |
| Sterling Index | | | | |
| All items | 155.8 | 153.1 | +1.3 | -9.9 |
| Euro Index | | | | |
| All items | 145.1 | 144.3 | +1.5 | -2.3 |
| Gold | | | | |
| \$ per oz | 1,104.6 | 1,126.3 | -0.8 | -7.8 |
| West Texas Intermediate | | | | |
| \$ per barrel | 44.6 | 46.1 | +18.9 | -50.1 |

Sources: Bloomberg; CME Group; Cotlook; Darmann & Curl; FT; ICO; ICOS; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Thomson Reuters; Urner Barry; WSJ. *Provisional

[†]Non-food agriculturals.



Hollywood undressed

Jackie Collins, novelist of California's ritziest zipcode, died on September 19th, aged 77

WHEN Jackie C. strode into the Polo Lounge of the Beverly Hills Hotel, half the room stood up to greet her. It wasn't hard to see why. A lush mane of dark hair, expertly teased out. Impeccable, but understated, make-up. An effortlessly classy black jacket and slacks. Strappy high-heeled sandals. A wide but simple swathe of Cartier diamonds completed the look. Diamonds always helped.

She was in her 70s, but looked at least 40 years younger. Botox was not the reason. Among this throng of surgically aided women and men, blowing air-kisses towards her from their puffy chipmunk cheeks, her unwrinkled glow came from sheer power. She loved it that the waiter fussed her, pushed in her chair and already had her sparkling water poured. She loved it that age—not that she felt it for one moment—let her do what the fuck she liked.

There was probably no one in the room who knew Hollywood better. She was its resident anthropologist, anatomiser and guide. The Grill for lunch. Mr Chow's or Cecconi's for dinner. Soho House for the best view of the whole staggeringly beautiful city of Los Angeles. Neiman-Marcus in Beverly Hills for shoes and jewels.

But this was only the start. Jackie C. also knew the places of furtive whispers and hot sheets. All of them. She had experi-

enced 90210's wicked side ever since the age of 15, when she made Errol Flynn chase her round a table in the louche Chateau Marmont Hotel and fought off Sammy Davis Jr. Ever since she'd two-timed a couple of car mechanics on Sunset Boulevard. And ever since Marlon Brando, at a party, had admired her magnificent 39-inch breasts at the start of their brief but fabulous affair. Now for trysts she recommended the Bel-Air ("very discreet") and Geoffrey's at the Beach for waves, lights and general sexiness.

Yet this was still not why she was the most potent and dangerous person in the room. She was a writer. Over the years, quietly and intently, she had watched what the denizens of Hollywood were doing, and listened to what they were saying. Who had ditched whom. Who was eyeing up whom. Who had slept with whom, and full details. From her corner table at Spago's, or half-hidden by a drape in a nightclub, or under the dryer at Riley's hair salon, she would gather every last crumb of gossip and rush to the powder room to write it down. She turned it into sizzling novels in which, every six pages or so, enormous erections burst out of jeans, French lace panties were torn off and groans of delight rang through the palm-fringed Hollywood air. There were 32

books in all, with titles like "The Stud", "The Bitch", "Lethal Seduction" and "Hollywood Divorces". She had sold half a billion of them worldwide. Anyone she met might turn up there. Stars would beg her not to put them in her stories, and she would tell them they were there, toned down, already. Hard luck.

The ultimate aphrodisiac

She could not be suborned because she was not one of them. For a start, she was a Brit from north London, with that cute and surprising accent. When she was not thinking, she might still drive on the wrong side of the road. She had come out to Hollywood for good in the 1970s in the wake of her elder sister Joan, an actress who was slightly more famous and almost as good-looking. They got on wonderfully, as long as Elder Sister did not try to write books.

When pushed, too, she showed her wild and stubborn side. She lived life on her terms, absolutely. Her schooldays had come to an abrupt end when she was expelled for slipping off to bars in Soho. Every sexual position and practice she wrote about—in taxis, in elevators, off dinghies, *en plein air* or, best of all, tantric—had been personally researched. Her heroines were insatiable. They also had balls of fire, as they never did in fiction before she got started. They kicked ass, and so did she. Her favourite, Lucky Santangelo, star of her grittier Mafia novels, ended up running a chain of casinos in Las Vegas. Channelling her, Jackie C. sported oversize Gucci bags that might just conceal a gun, and reacted to an attempted carjack by reversing at speed. Never fuck with Jackie C. Her mascot was a panther—lithe, elegant, fierce.

And unpredictable. No stylist and no driver for her, though she had made a fortune from the novels and the TV spin-offs and could afford all the staff she liked. She designed her own mansion, did her own nails, executive-produced the films of her own books. And despite the orgiastic goings-on all round her, she stayed faithful—mostly—to her own men. She helped her first husband through methadone addiction and her second and third through terminal cancer. She sent her daughters to strict Catholic schools. Between the exhausting research-gathering and writing she cooked great meatloaf. Quite the Beverly Hills Housewife, in some ways.

Yet in other ways she never was. Writing gave her a power like no one else's, the ultimate aphrodisiac. Glancing now round the hotel lounge, taking in the bizarre bimbos and blond toy-boys and producers with gold chains in their chest hair, she knew she exuded more sex appeal than all of them together. And as for the bulging-tight trousers of the gloriously handsome Italian waiter who bent to serve her, that careless come-on swivel of the hips... ■

INNOVATION AWARDS & SUMMIT 2015

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ANNOUNCING THE WINNERS

SOCIAL AND ECONOMIC INNOVATION AWARD WINNER

For bringing world-class education to low-income African children



Jay Kimmelman
Chief executive officer
Bridge International Academies



Shannon May
Chief strategy and development officer
Bridge International Academies

THE STORY

While doing postdoctoral research on the modernisation of rural China, anthropologist Shannon May and her husband, Jay Kimmelman, had an idea for a new system of education for low-income children. Mr Kimmelman had previously co-founded and run Edusoft, an educational-software company; together, he and Ms May created Bridge International Academies.

Their company sought investors and put money into developing a vertically integrated system that brought world-class teaching to underserved communities through carefully devised teacher guidelines delivered via tablet technology. Bridge's standardised and data-driven model greatly reduces the overhead costs of running an academy, while providing significantly improved learning outcomes for children.

THE IMPACT

Bridge opened its first school in the Mukuru slum in Nairobi, Kenya, in 2009. It now has 414 academies teaching more than 100,000 pre-primary and primary school students in Kenya, Uganda and Nigeria.

Serving communities where most people live on less than \$2 a day, Bridge charges an average of \$6 per month. Bridge says approximately 90% of the families in the communities it serves can afford to send all their children to its academies.

CORPORATE AWARD WINNER



THE STORY

Alibaba is the largest online and mobile commerce company in the world by gross merchandise volume. It provides the technological infrastructure and marketing reach that allows businesses to establish an online presence and transact with hundreds of millions of consumers and other firms. The e-commerce giant says its mission is "To make it easy to do business anywhere". Each of Alibaba's platforms and services was developed in response to a social, economic or cultural need.

The company was founded in 1999 by a small group led by Alibaba's chairman, Jack Ma, who believed that small businesses are the backbone of economic growth and prosperity, and that technology could be used to give anyone who wants to participate in global commerce a chance to succeed.

Instead of a single "big-bang" innovation, Alibaba's major advances have come from understanding its home market in China and anticipating emerging needs. Increasing internet access, rising incomes and a fragmented retail industry have helped make e-commerce a central part of Chinese consumer culture.

THE IMPACT

Alibaba dominates online shopping in China, accounting for more than 80% of the market.

In the year to the end of March 2015, the gross value of goods bought and sold on Alibaba's Chinese marketplaces totalled \$394 billion (2.444 billion yuan), with over 350m buyers active during the period – more than the population of the United States. These consumers are served by the more than 10m sellers operating on Alibaba's marketplaces. Alibaba's Taobao Marketplace is China's largest online-shopping destination; Tmall is China's largest third-party platform for brands and retailers; and Juhuasuan is China's most popular group-buying marketplace.

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