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Asian-Americans' bamboo ceiling

Putin, Obama and expeditionary warfare

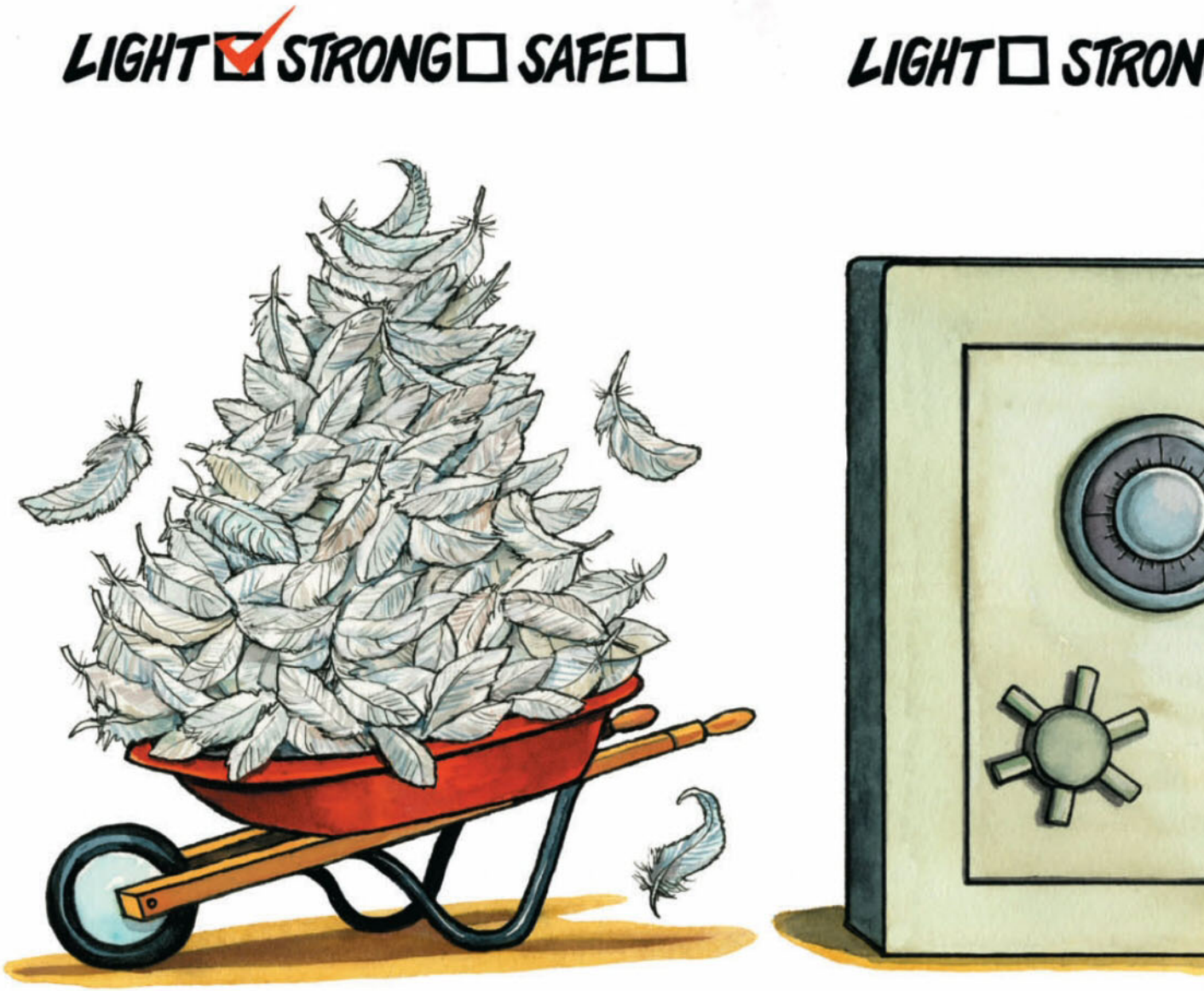
Where Mayfair trumps Manhattan

Meet your personal bacterial cloud

Is Robert Mugabe on the skids?

Dominant and dangerous

A 14-page special report on the dollar's role in the world economy



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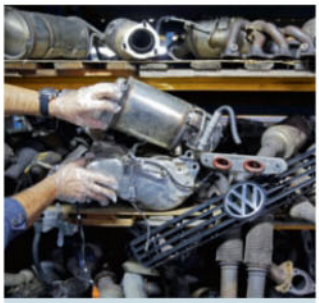

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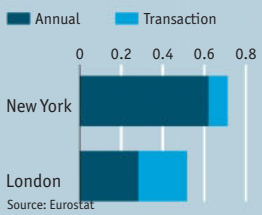

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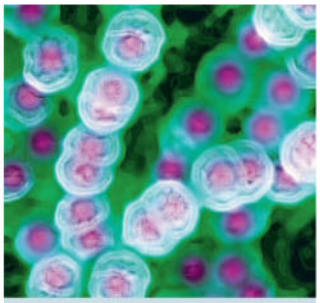

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Politics

Russia, which recently stunned the West by deploying fighter jets to **Syria**, used them for the first time, striking targets near Homs within hours of a parliamentary vote in Russia to authorise action. The attacks were said by the Russians to be aimed at Islamic State, but the area where they took place is not held by the jihadist group. The Russians gave America, which is bombing IS, just an hour's notice. Their military forces have not operated in such proximity since 1900.

Saudi Arabia's campaign against rebels fighting the government in **Yemen** became even bloodier. An air strike killed more than 130 people at a rural wedding.

Mahmoud Abbas, the **Palestinian** president, announced at the UN that he considered himself to be no longer bound by the 1993 Oslo accords with Israel, which established the Palestinian Authority he heads. It was not clear what practical effect this would have, as Mr Abbas did not follow through on earlier speculation that he was planning to dissolve the authority.

More than 100 people were killed by four bomb blasts in northern **Nigeria**. Boko Haram, a jihadist group, was blamed for the atrocities.

Thousands marched in **South Africa** against corruption. The protest coincidentally took place soon after Hitachi, a Japanese engineering firm, agreed to pay $19m to settle charges brought by American regulators over payments made to the African National Congress, South Africa's ruling party, in connection with contracts to build power stations.

In **Burkina Faso** troops loyal to the government attacked the barracks of an army unit that had participated in a coup but which then refused to disarm when it was quashed.

Just blame America

Russia's intervention in Syria was preceded by the appearance of its president, **Vladimir Putin**, in New York, where he met his American counterpart and spoke at the UN General Assembly. Mr Putin blamed violence and rebellion in the Middle East on America. His critics say he is trying to position himself as a key player on the international stage following his isolation over the partial annexation of Ukraine.

Catalan nationalists in **Spain** won a clear majority in the regional parliament based on a vote of 48%. Moves toward independence have gathered further momentum but failure to win a majority of votes is so far limiting the secessionists.

Sepp Blatter, the head of FIFA, football's world governing body, was put under criminal investigation in Switzerland over two instances of "mismanagement and misappropriation". One of them involves a payment to Michel Platini, the head of Europe's football federation and, until last week, the favourite to succeed Mr Blatter in February.

A knock back

Afghan's armed forces, with the assistance of American air strikes, appeared to have regained control of Kunduz, the sixth biggest city in **Afghanistan**, a few days after the city fell to the Taliban. The success of the insurgents was a blow for Ashraf Ghani, who marked his first year as president.

China announced a scheme to set up a national carbon-trading scheme in 2017. It also plans a market covering all types of natural resources, for which an inventory will be made, including rivers, forests, minerals and uncultivated land.

Japan's prime minister, Shinzo Abe, announced a tripling of financial assistance to refugees in Syria and Iraq though he said that Japan would not take in more of them. Of the 5,000 people applying for asylum last year, only 11 were accepted.

The University of **Hong Kong** sparked fierce protest at home and in international academic circles by opposing the appointment of Johannes Chan, a pro-democracy legal scholar, to a senior post. Mr Chan's supporters say that the university buckled under pressure from Beijing.

Evo sticks

In **Bolivia** the parliament passed a bill that would allow Evo Morales to seek a fourth term as president. Mr Morales promised in his re-election bid last year that he would not stand again. The proposal will go to a referendum in February.

The government in **Peru** declared a state of emergency in the area around the Las Bambas mine, a Chinese-owned project that is due to start operations next year. Four protesters were killed in demonstrations against changes to the project that they say will pollute the area.

After a meeting between the presidents of **Colombia** and **Venezuela** to reduce recent tensions between the two countries, Venezuela said it would allow the Colombians it deported from its border area to return. Venezuela had declared a state of emergency in the area in a crackdown on the smuggling of drugs and other items, though opponents of the government say this was just a ruse to deflect attention from the worsening economy.

Barack Obama held his second meeting of the year with Raúl Castro, **Cuba's** president. This time they met at the UN, where Mr Castro called again for the United States to lift its embargo against his country. Mr Obama wants that to happen, but the Republican-controlled Congress is in no mood to oblige him.

Bye-bye Boehner

The Republicans in the House of Representatives set October 8th as the date to choose a new Speaker following the decision by **John Boehner** to step down. Mr Boehner has been Speaker since January 2011 and has had a fractious time in office, fending off criticisms from hard-line conservatives that he was not doing enough to halt Barack Obama's agenda. The favourite to replace him is Kevin McCarthy, considered a moderate in the party.

Congress managed to avoid a **government shutdown**—just—by approving a temporary spending bill to finance operations until December 11th. Republicans have been causing a stink about the public funding that goes to Planned Parenthood, which performs abortions (it insists that the federal money it gets does not go towards providing most of its abortions).

Donald Trump unveiled his plan for what he would do with taxes should he become president. The man of the people in the Republican race wants to reduce marginal tax rates for high earners from 40% to 25%, even lower than a proposal by Jeb Bush.

Business

Volkswagen's new chief executive, Matthias Müller, presented to a board committee the first findings of an internal investigation into the carmaker's cheating of emissions tests. Mr Müller was the boss of Porsche, a subsidiary of VW, prior to the resignation of Martin Winterkorn as Volkswagen's CEO over the affair, who was placed under criminal investigation by German prosecutors. VW also recalled up to 11m vehicles worldwide to refit the emission-cheating software. It has lost around a third of its market value since the scandal broke.

How the mighty tumble

It was also another bad week for **Glencore**, which saw its share price fall by a third after investment-bank analysts issued grim warnings about the mining and commodity-trading company's balance-sheet if commodity prices do not rebound. Investors are worried by Glencore's high levels of debt. Its insistence that it is "operationally and financially robust" and has access to strong lines of credit sent its shares up again.

Alcoa said it would split in two, a move that had been long anticipated given the decline of aluminium and other commodity prices. The company's aluminium and mining divisions will retain the Alcoa logo; its metal-products business, which serves the car and aerospace industries, will go by a new name that has yet to be decided.

The oil industry absorbed Shell's decision to abandon plans to **drill in Arctic seas** off the Alaskan coast, because the results of initial tests were disappointing. Environmentalists, who had rallied against the decade-long project under the banner of "sHell No!", were delighted. But it is one of the most costly failures to date in the energy industry, for which Shell will take a big write-down, leading to many job cuts in Alaska.

Investors gave a thumbs down to the announcement that Energy Transfer Equity is to take over Williams in a $37.7 billion transaction that creates one of the world's biggest **oil-pipeline and energy-infrastructure** companies. In June Williams rejected a much higher offer from ETE, but, like others in the industry, its share price has since fallen.

Valeant's share price plunged by 20% after Democrats in Congress asked the drug company to submit evidence to their investigation into big price increases on certain pills. The issue has gained traction in America after a biotech company talked of raising the price of one of its drugs by 5,000%. The Democrats want to question Valeant about price rises of up to 525% for two treatments for heart disease.

New designs

Ralph Lauren decided to call it a day as chief executive of the American fashion house he created in 1967, which is best known for its Polo label. His successor is Stefan Larsson, a Swede who made his mark at the more downmarket H&M and is credited also with reinvigorating Gap's Old Navy brand. Mr Lauren is staying on as executive chairman.

In a surprise move **India's** central bank made a hefty cut to interest rates, reducing its main rate by half a percentage point, to 6.75%. It is the fourth, and biggest, cut this year. Although inflation is stable, the central bank is worried that India's "far from robust" economy could be hit by weakening global demand.

The **euro zone** dipped back into deflation, as consumer prices fell at an annual rate of 0.1% (excluding energy prices, they rose by 1%). Inflation has been below the European Central Bank's target of 2% for more than two years now; it will decide at its meeting on October 22nd whether to increase the €60 billion ($67 billion) in asset purchases it makes through its quantitative-easing programme each month.

The European Union formally released its proposals for a **capital markets union** with an aim to streamline myriad rules on investment and lending to business among the EU's 28 member states. Many European startups, for example, commonly have to turn to American funds when they expand their activities and need more investment. The EU's plan was generally welcomed by banks and investors, but getting 28 countries to agree on what the initiative should actually deliver will be a tough task.

Driving the future

Tesla Motors delivered the first batch of its new **Model X** car to customers, two years behind schedule. The pioneering electric-car company thinks the Model X, a sport-utility vehicle, will help it reach its target of selling half a million cars worldwide by 2020, ten times more than it expects to sell this year. It has opened a factory in the Netherlands, its first in Europe, to speed deliveries of its Model S saloon to European buyers. But in Denmark the government said it was ending a tax break on electric cars, which will up the price of a Tesla by 180%.

Other economic data and news can be found on pages 95-96

Dominant and dangerous

As America's economic supremacy fades, the primacy of the dollar looks unsustainable

IF HEGEMONS are good for anything, it is for conferring stability on the systems they dominate. For 70 years the dollar has been the superpower of the financial and monetary system. Despite talk of the yuan's rise, the primacy of the greenback is unchallenged. As a means of payment, a store of value and a reserve asset, nothing can touch it. Yet the dollar's rule has brittle foundations, and the system it underpins is unstable. Worse, the alternative reserve currencies are flawed. A transition to a more secure order will be devilishly hard.

When the buck stops

For decades, America's economic might legitimised the dollar's claims to reign supreme. But, as our special report this week explains, a faultline has opened between America's economic clout and its financial muscle. The United States accounts for 23% of global GDP and 12% of merchandise trade. Yet about 60% of the world's output, and a similar share of the planet's people, lie within a de facto dollar zone, in which currencies are pegged to the dollar or move in some sympathy with it. American firms' share of the stock of international corporate investment has fallen from 39% in 1999 to 24% today. But Wall Street sets the rhythm of markets globally more than it ever did. American fund managers run 55% of the world's assets under management, up from 44% a decade ago.

The widening gap between America's economic and financial power creates problems for other countries, in the dollar zone and beyond. That is because the costs of dollar dominance are starting to outweigh the benefits.

First, economies must endure wild gyrations. In recent months the prospect of even a tiny rate rise in America has sucked capital from emerging markets, battering currencies and share prices. Decisions of the Federal Reserve affect offshore dollar debts and deposits worth about $9 trillion. Because some countries link their currencies to the dollar, their central banks must react to the Fed. Foreigners own 20-50% of local-currency government bonds in places like Indonesia, Malaysia, Mexico, South Africa and Turkey: they are more likely to abandon emerging markets when American rates rise.

At one time the pain from capital outflows would have been mitigated by the stronger demand—including for imports—that prompted the Fed to raise rates in the first place. However, in the past decade America's share of global merchandise imports has dropped from 16% to 13%. America is the biggest export market for only 32 countries, down from 44 in 1994; the figure for China has risen from two to 43. A system in which the Fed dispenses and the world convulses is unstable.

A second problem is the lack of a backstop for the offshore dollar system if it faces a crisis. In 2008-09 the Fed reluctantly came to the rescue, acting as a lender of last resort by offering $1 trillion of dollar liquidity to foreign banks and central banks. The sums involved in a future crisis would be far higher. The offshore dollar world is almost twice as large as it was in 2007. By the 2020s it could be as big as America's banking industry. Since 2008-09, Congress has grown wary of the Fed's emergency lending. Come the next crisis, the Fed's plans to issue vast swaplines might meet regulatory or congressional resistance. For how long will countries be ready to tie their financial systems to America's fractious and dysfunctional politics?

That question is underscored by a third worry: America increasingly uses its financial clout as a political tool. Policymakers and prosecutors use the dollar payment system to assert control not just over wayward bankers and dodgy football officials, but also errant regimes like Russia and Iran. Rival powers bridle at this vulnerability to American foreign policy.

Americans may wonder why this matters to them. They did not force any country to link its currency to the dollar or encourage foreign firms to issue dollar debt. But the dollar's outsize role does affect Americans. It brings benefits, not least cheaper borrowing. Alongside the "exorbitant privilege" of owning the reserve currency, however, there are costs. If the Fed fails to act as lender of last resort in a dollar liquidity crisis, the ensuing collapse abroad will rebound on America's economy. And even without a crisis, the dollar's dominance will present American policymakers with a dilemma. If foreigners continue to accumulate reserves, they will dominate the Treasury market by the 2030s. To satisfy growing foreign demand for safe dollar-denominated assets, America's government could issue more Treasuries—adding to its debts. Or it could leave foreigners to buy up other securities—but that might lead to asset bubbles, just as in the mortgage boom of the 2000s.

It's all about the Benjamins

Ideally America would share the burden with other currencies. Yet if the hegemony of the dollar is unstable, its would-be successors are unsuitable. The baton of financial superpower has been passed before, when America overtook Britain in 1920-45. But Britain and America were allies, which made the transfer orderly. And America came with ready-made attributes: a dynamic economy and, like Britain, political cohesiveness and the rule of law (see Free exchange).

Compare that with today's contenders for reserve status. The euro is a currency whose very existence cannot be taken for granted. Only when the euro area has agreed on a full banking union and joint bond issuance will those doubts be fully laid to rest. As for the yuan, China's government has created the monetary equivalent of an eight-lane motorway—a vast network of currency swaps with foreign central banks—but there is no one on it. Until China opens its financial markets, the yuan will be only a bit-player. And until it embraces the rule of law, no investor will see its currency as truly safe.

All this suggests that the global monetary and financial system will not smoothly or quickly wean itself off the greenback. There are things America can do to shoulder more responsibility—for instance, by setting up bigger emergency-swaplines with more central banks. More likely is a splintering of the system, as other countries choose to insulate themselves from Fed decisions by embracing capital controls. The dollar has no peers. But the system that it anchors is cracking. ■

Zimbabwe

Act before the tyrant dies

The world needs to prepare for a Zimbabwe without Robert Mugabe

IN ZIMBABWE they are waiting for rain. The region's worst drought in a decade has withered the maize (or corn) crop, which came in at only about half the size of last year's. The poor harvest has left at least 1.5m people—more than one in every eight—in desperate need of food aid.

For Zimbabwe's long-suffering people, waiting has become a national vocation. For 15 years since he rigged a general election in 2000, Zimbabweans have waited for the chance to be shot of Robert Mugabe. He has ruled the country since its independence in 1980, and so gravely wrecked its economy that people are poorer today than they were 25 years ago. Of late, despairing of democratic change, they have simply waited for the 91-year-old to succumb to mortality.

The parched harvest and weak economy mean that their patience may soon be rewarded: if Mr Mugabe does not die first, it looks increasingly possible that he may be pushed out by his party, Zanu-PF, over which his ruthless control is slipping. To be sure, he has weathered economic and political crises before. But this time things are different.

One reason is that Mr Mugabe's mental powers seem at last to be failing him. He recently read out the very same speech that he had delivered to parliament only three weeks earlier. Still more pressing is the fact that his government is running out of the money it needs to pay the public servants, especially policemen and soldiers, who keep it in power and whose wages gobble up more than 80% of public spending.

In previous crises Mr Mugabe could usually pull a rabbit out of the hat. When his popularity fell, he seized land from white farmers and gave it to his supporters. And when, as a result, the money ran out, he printed more. Now Mr Mugabe's hat is out of rabbits. The government cannot borrow from abroad because it defaulted on its foreign loans in 1999; even China has balked at helping. Nor can it print money, because it was forced to adopt dollars to tame the hyperinflation that rampaged in 2008. And because Zimbabwe imports more than it exports, its supply of currency is shrinking, driving it into deflation. Official estimates of growth are divorced from reality. The amount of beer sold, a good measure of the economy, has dropped by 8% in the past year (see page 47). Electricity in Harare, the capital, is often cut off for 18 hours a day. Firms are shedding thousands of workers.

Zimbabwe's only way out is to make peace with its creditors, which include the IMF and Western governments, in order to get new loans and forgiveness of its foreign debt, which stands at over 100% of GDP. This month the finance minister, Patrick Chinamasa, will present a reform plan that includes spending cuts and changes to some of the laws that are holding back investment, such as one insisting that all firms are majority-owned by black Zimbabweans.

Be kind but firm

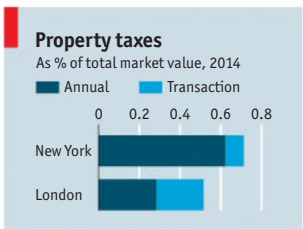
The dilemma for the West is whether to bail out the government with debt relief and new loans—or wait for the demise of the tyrant. The choice need not be so stark. Relative reformists such as Mr Chinamasa should be encouraged, despite his record as a serial human-rights abuser when he was minister of justice; even more sinister party chiefs are sharpening their knives for the succession.

Western governments should lay down firm conditions for aid. They must form a plan that makes assistance and debt relief depend on measurable economic and democratic reforms. But they need to hurry. If they act now they may influence the outcome for the better. If they wait until Mr Mugabe has gone, a precious opportunity may be lost. ■

Property taxes

Welcome to New London

What two of the world's great cities can teach each other about how to tax homes



GIVEN a choice between London and New York, many would plump for a melange of Mayfair and Manhattan: parks and palaces mixed in with delis and dynamism. For policymakers, combining the best of both cities need not be a pipe dream. In the (admittedly technical) area of residential-property taxes, the pair have much to learn from each other.

Each has a couple of strengths over the other. New York's first advantage lies in the amount of money it raises. Overall, homeowners in New York pay 40% more, as a proportion of their residences' value, than Londoners do. Economists argue that a good tax should focus on revenue streams that cannot avoid payment by moving away, and that a levy should change behaviour as little as possible. Land taxes are particularly attractive for this reason. Property taxes are second-best, because the investment in a plot of land can vary, but unlike land taxes they have the political advantage of already being in place. Here New York beats London because the more revenue that can be raised on an immobile home, the less the government needs to tax other activity, whether that is work, investment or consumption.

The Big Apple's other edge comes from taxing the stock of property rather than flows as houses or flats change hands. Al- ▸▸

most 90% of New York's property-tax take stems from an annual levy on each home's estimated current price. The corresponding figure for London is just 55%. In Britain much more revenue comes from a stamp duty applied each time a property is bought and sold. This policy fails the economists' test of leaving behaviour unaffected: stamp duty is a deterrent to moving house and reduces transactions by anything from 8-20%. That locks some homeowners into properties they would otherwise leave. If people do not move as readily as they might in search of work, economies suffer.

London also has plenty to teach New York. First, its property tax is more progressive than that of its transatlantic cousin. Following a series of recent tweaks, London now collects more than twice the rate on homes worth over £10m ($16m) than it does on those worth less than £1m. Progressivism should not be code for soaking the rich: both of these great global cities benefit from the plutocrats they attract. But London's approach is better than the regressivism of New York, where the cheapest homes pay the highest rates (see page 78).

London also gains from ensuring that its tax regime is more consistent. New York has made itself a lobbyists' paradise. The city's system of property-tax abatements, the largest of which was originally designed to slow population loss and later repackaged to encourage the construction of affordable housing, has become an epic boondoggle. Qualifying projects can reap tax cuts of up to 95%, costing the city over $1 billion a year, while identical buildings must pay full whack. This scheme not only rewards developers who know how to milk the system, but also entwines government spending on affordable housing inside the tax code. That is less efficient than allocating funds directly. London is mercifully free of such hand-outs.

Put together the strong suits of each city, and what emerges? The optimal system would impose a relatively high, graduated levy on properties' market value each year, with no exceptions. In London this approach could be implemented by scrapping stamp duty and modifying the council tax, which last had its price bands updated in 1991, to charge a percentage of each home's current value. New York would have to abandon its abatements, and adjust its tax brackets to raise less revenue from the cheapest homes and more from the priciest.

This would punish "asset-rich, cash-poor" households—ie, those people, many of them elderly, whose residences have appreciated faster than their incomes have grown. So that they would not suddenly be forced to move, homeowners should have the option to defer a portion of their liability, with interest, until they die or sell their house.

Mix and match

Even if a model of this sort were put in place, residential property would still enjoy far too many special favours—whether America's mortgage-interest deduction or Britain's plans to end inheritance tax on family homes worth up to £1m. But in tax, as in other walks of life, the best of London and New York is a combination that would be hard to beat. ■

War in the Muslim world

Putin dares, Obama dithers

The danger of Russia's intervention in Syria, and America's timidity in Afghanistan

TO HEAR Vladimir Putin, Russia has become the leader of a new global war on terrorism. By contrast Barack Obama seems wearier by the day with the wars in the Muslim world that America has been fighting for more than a decade. On September 30th Russian jets went into action to support Bashar al-Assad's beleaguered troops. It is setting up an intelligence-sharing network with Iraq and Iran. The Russian Orthodox church talks of holy war. Mr Putin's claim to be fighting Islamic State (IS) is questionable at best. The evidence of Russia's first day of bombing is that it attacked other Sunni rebels, including some supported by America. Even if this is little more than political theatre, Russia is making its biggest move in the Middle East, hitherto America's domain, since the Soviet Union was evicted in the 1970s.

In Afghanistan, meanwhile, America's campaign against the Taliban has suffered a blow. On September 28th Taliban rebels captured the northern town of Kunduz—the first provincial capital to fall to them since they were evicted from power in 2001. Afghan troops retook the centre three days later. But even if they establish full control, the attack was a humiliation.

Both Kunduz and Russia's bombing are symptoms of the same phenomenon: the vacuum created by Barack Obama's attempt to stand back from the wars of the Muslim world. America's president told the UN General Assembly this week that his country had learned it "cannot by itself impose stability on a foreign land"; others, Iran and Russia included, should help in Syria. Mr Obama is not entirely wrong. But his proposition hides many dangers: that America throws up its hands; that regional powers, sensing American disengagement, will be sucked into a free-for-all; and that Russia's intervention will make a bloody war bloodier still. Unless Mr Obama changes course, expect more deaths, refugees and extremism.

Having seen the mess that George W. Bush made of his "war on terror", especially in Iraq, Mr Obama is understandably wary. American intervention can indeed make a bad situation worse, as odious leaders are replaced by chaos and endless war saps America's strength and standing. But America's absence can make things even more grim. At some point, extremism will fester and force the superpower to intervene anyway.

That is the story in the Middle East. In Iraq Mr Obama withdrew troops in 2011. In Syria he did not act to stop Mr Assad from wholesale killing, even after he used poison gas. But when IS jihadists emerged from the chaos, declared a caliphate in swathes of Iraq and Syria, and began to cut off the heads of their Western prisoners, Mr Obama felt obliged to step back in—desultorily. In Afghanistan Mr Obama is making the same mistake of premature withdrawal. As NATO's combat operations wound down into a mission to "train, advise and assist", Mr Obama promised that the last American troops would leave Afghanistan by the end of 2016. The date had no bearing

on conditions in Afghanistan but everything to do with when Mr Obama leaves the White House.

What can Mr Obama do? In Afghanistan, rather than pull out the 9,800 remaining American troops, he should reinforce them and make clear that he puts no date on their withdrawal. The rules of engagement must expand so that NATO forces can back Afghan ones. Attack aircraft should support them as needed, not just in extremis. He needs to knock heads together in Kabul, where the "unity" government forged last year between President Ashraf Ghani and his rival, Abdullah Abdullah, is dysfunctional enough to lack a defence minister. This was Mr Obama's "good war": he risks losing it.

In Syria Mr Obama's dithering means his options continually grow harder and riskier. Mr Putin is unabashedly defending a tyrant and deepening the region's Sunni-Shia divide. America must hold the line that Mr Assad will not remain in power, and set out a vision for what should follow. It needs to do more to protect the mainly Sunni population: create protected havens; impose no-fly zones to stop Mr Assad's barrel-bombs; and promote a moderate Sunni force. That may well mean staring down Russian jets.

As a *judoka*, Mr Putin knows the art of exploiting an opponent's weakness: when America steps back, he pushes forward. Yet being an opportunist does not equip him to fix Syria. And the more he tries to save Mr Assad the more damage he will cause in Syria and the region—and the greater the risk that his moment of bravado will turn to hubris. Given the enduring strength of America, there is much that it can still do to contain the spreading disorder—if only Mr Obama had a bit more of Mr Putin's taste for daring. ■

Remembering history

Museum pieces

Where statues of Confederate leaders do and don't belong

A SLAVE-TRADER before the civil war and a luminary of the Ku Klux Klan after it, Nathan Bedford Forrest, a Confederate officer (pictured), reputedly oversaw a massacre of black Union soldiers. Unsurprisingly, many black (and other) Americans resent his veneration in public statues and school names—just one of many rows over the commemoration of Confederate leaders and post-war segregationists roiling American towns and states. Among the monuments that the mayor of New Orleans wants to move, for example, is one to the Battle of Liberty Place, an insurrection by white supremacists nine years after the war ended. The guiding principle in these stand-offs should be that, when public land and resources are used in a way that causes widespread offence, as preserving these state-sponsored tributes does, the authorities should have a good reason for doing so. In this case, they don't.

After June's racist massacre at a black church in Charleston, South Carolina, by a gunman who posed with the Confederate colours, the flag was tactfully lowered at the state capitol and elsewhere. Yet for devotees of these relics—as in South Carolina, where a statue of Ben Tillman, a violently racist post-war governor, still stands in the capitol's grounds, despite efforts to evict it—giving up the flag was a tactical retreat. They make three main arguments for keeping Forrest and his kind on their plinths: each looks powerful but is mistaken.

The first is that whitewashing the past's regrettable aspects benefits no one. The civil war and segregation, they say, are part of America's history and must be remembered. Indeed they must. Yet by propagating a sentimental version of the war that glosses over the South's belligerence and attachment to slavery, too often these monuments misrepresent the history they purport to embody. Tillman's statue describes him as a friend "of the common people", omitting his open advocacy of bloodshed. And there is a world of difference between remembering someone and extolling them, as such honours do. Clearly, American children must know about these figures—but that does not mean they should occupy space in town squares and on the walls of capitols. Private memorials are another matter: citizens should always be free to wear Confederate-flag T-shirts or erect whatever shrines they want. But official statues and portraits wrongly suggest that these men should be not just remembered but publicly revered.

Another argument against fiddling with these markers is that Americans, especially black Americans, have bigger things to worry about; some black activists say as much themselves. True enough. But the persistence of inequality and discrimination is intimately connected with how America sees its past. Many of these monuments went up as the Jim Crow system of segregation became entrenched a century or so ago and even more recently, during the civil-rights struggle of the 1960s: Stone Mountain, a vast, hagiographic carving in Georgia, was completed in 1972. They commemorate 20th-century bigotry as much as wartime heroism.

The best defence is that, once you start revising public spaces, it is hard to stop. It is not just that Confederate nomenclature is so prolific; what about George Washington, Thomas Jefferson and various other slave-owning Founding Fathers and early presidents? Ditto those titans who persecuted native Americans. This argument, too, is weaker than it looks. It is possible to distinguish between someone whose principal contribution to history was ultimately baleful and someone, such as Washington, whose failings were subordinate to their claim to greatness. Wherever the line is drawn, Confederates and segregationists who once divided their country and now alienate many of its citizens, fall on the wrong side.

The present past

America's civil war, like most wars, was not a simple story of goodies versus baddies. Ordinary soldiers fought bravely and from noble motives on both sides. For that reason the memorials to its casualties that are features of many small towns should be left alone. But it would be better if state and city authorities chose to retire their state-sponsored likenesses of Confederate leaders and vocal segregationists to museums, where they can be studied but not celebrated. ■

I am what I am

The problem of consciousness is not "the question of what it actually is—of what it is people are experiencing while they are conscious" ("The hard problem", September 12th). We know exactly what consciousness is, simply in being conscious: seeing crimson, smelling smoke, tasting mustard and so on. It is precisely this detailed knowledge of what consciousness is that gives rise to the real problem, which is to explain its existence, given that we appear to be wholly physical beings. How can neural processes be or give rise to consciousness? How is it that they are accompanied by consciousness?

It is beyond serious doubt that conscious experience is wholly a matter of brain activity, but this doesn't show us that we don't know what consciousness is. It shows us that we don't know what matter is. The hard problem is the problem of matter. Matter is even more extraordinary than we thought, as physicists have been demonstrating for a long time.

It was Brian Farrell, a philosopher at Oxford, who first wondered "what it would be like to be a bat", in a paper entitled "Experience" published in *Mind* in 1950. Colin McGinn called the problem of consciousness "the hard nut of the mind-body problem" in 1989. I called it "the hard part of the mind-body problem" in the same year.

GALEN STRAWSON
Chair in philosophy
University of Texas at Austin

One of the most exciting discoveries in neuroscience in recent times is that there are neurons that bring you in direct contact with other human beings, or animals for that matter. When you see somebody making a particular movement, the motor neurones that would become active if you made that movement yourself become active. These neurons are called mirror neurons, because they reflect the activity of others inside your own motor system.

This is not just theorising about other minds, this is sharing other minds. It may well be that our bias to see mind and consciousness as subjective has blocked progress in this field. Fortunately, there is a growing recognition of the importance of the social and cultural dimension of mind and consciousness, leading researchers to study cognition and brain in a social setting.

HERMAN KOLK
Professor emeritus of neuropsychology
Radboud University
Nijmegen, the Netherlands

Thomas Nagel was ridiculed by Steven Pinker and others for proposing that a common force with a determined end-game drives our consciousness. That gave too much comfort to creationists. Yet Mr Pinker has published work highlighting the overall decline in violence in our species by examining trends over the ages. I don't recall any particular saint, king or general leading this crusade, so if true, it must have been driven by a more common force in our nature, one with a determined end-game.

Neural science will eventually tell us how consciousness forms. But the hard problem of discovering its true nature and purpose may be beyond science.

JAMES SPARKS
New York

Migrants in eastern Europe

The argument that eastern Europe "needs" refugees is flawed ("More vacancies than visitors", September 19th). You accept refugees for humanitarian reasons, regardless of whether you need them or not. A country might "need" economic migrants, and I agree that eastern Europe does, but this should be an area for rational policymaking, where countries choose immigrants according to their qualifications, age and so on. Why deny that right to Hungary, Slovakia and other central and east European countries when western Europe has been doing it for decades?

The simple fact is that migrants who pass through east Europe are heading for west Europe and its labour markets. They chant the name of the German chancellor, not the Lithuanian prime minister.

JAKUB WISNIEWSKI
Permanent representative of Poland to the OECD
Paris

Thailand and China

Observers of Bangkok's ongoing flirtation with Beijing have feared for some time that the Thai side would only recognise too late that it had succumbed to irreversible Chinese political and economic domination. Banyan's discovery (September 19th) that these observers may be wrong is encouraging.

But members of the Thai elite must recognise that, in addition to human-trafficking, other factors impede the restoration of genuinely cordial relations between Thailand and the West. These include the refusal of the country's deeply reactionary military establishment to submit to civilian control and the use of threadbare monarchism as a pretext for curbing freedom of expression in ways that are just incomprehensible in the West.

Indeed, Banyan underestimates the degree to which the pique in Thailand over Washington's criticism of the absurd lengths to which charges of lèse-majesté have been taken led to "China fever" in Bangkok.

MICHAEL MONTESANO
Thailand Studies Programme
ISEAS-Yusof Ishak Institute
Singapore

Work wise

Schumpeter correctly identified a new digital strain of Frederick Taylor's principles of "scientific management" (September 12th). The root problem is the nature of the work. A machine bureaucracy is the most efficient way for integrating repetitive, routine and precise tasks through a strict division of labour with co-ordination achieved by standardising work processes. In this context, digital technology is simply today's preferred method to achieve standardisation. But it alone is not responsible for irreconcilable tensions in a structure designed to co-ordinate routine tasks, it is just a contributing factor in the constant redefinition of what constitutes simple and routine work. The only cure for the dysfunctional and irrational aspects of bureaucracy, or bureaupathology, is to ensure that jobs are designed to include complex and non-routine elements.

DANIEL CASEY
Pathfinder fellow
Royal College of Psychiatrists
London

Never was so much

You reported Robert Hardman's estimate that the queen has met 4m people during her reign ("Long to reign over them", September 12th). That is an average of about 170 people per day.

That's an achievement that seems unlikely, and on a par with other doubtful accomplishments that I have seen quoted, such as Winston Churchill's lifetime consumption of cigars (250,000), the number of letters written by George Bernard Shaw (also 250,000) and the amount of miles tramped by William Wordsworth in the Lake District (175,000).

ADRIAN WILLIAMS
Oxford ■

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The model minority is losing patience

Asian-Americans are the United States' most successful minority, but they are complaining ever more vigorously about discrimination, especially in academia

MICHAEL WANG, a young Californian, came second in his class of 1,002 students; his ACT score was 36, the maximum possible; he sang at Barack Obama's inauguration; he got third place in a national piano contest; he was in the top 150 of a national maths competition; he was in several national debating-competition finals. But when it came to his university application he faced a serious disappointment for the first time in his glittering career. He was rejected by six of the seven Ivy League colleges to which he applied.

"I saw people less qualified than me get better offers," says Mr Wang. "At first I was just angry. Then I decided to turn that anger to productive use." He wrote to the universities concerned. "I asked: what more could I have done to get into your college? Was it based on race, or what was it based on?" He got vague responses—or none. So he complained to the Department of Education. Nothing came of it. "The department said they needed a smoking gun."

In May this year Mr Wang joined a group of 64 Asian-American organisations that made a joint complaint to the Department of Education against Harvard, alleging racial discrimination. That follows a lawsuit filed last year against Harvard and the University of North Carolina by a group of Asian-American students making similar charges. The department rejected the claim in July, but another two complaints have since been filed by Asian-Americans, one against Harvard and one against nine other universities.

On October 3rd 1965 President Lyndon Johnson signed the Immigration and Nationality Act into law, sweeping away a system that favoured white Europeans over other races. One of its main consequences was the beginning of mass immigration to America from Asia. By most indicators, these incomers have done better than any other ethnic minority group. Indeed, they have long been described as the "model minority": prosperous, well-educated and quiescent. But there are problems, as a result of which they are becoming somewhat less quiescent than they once were.

Before the 1965 act, the experience of Asian-American immigrants had not been entirely happy. The largest mass lynching in American history, in 1871, in which 17 Chinese were murdered; the Chinese Exclusion Act of 1882, which prohibited Chinese immigration; the internment of 120,000 Japanese-Americans in the second world war, when relatively few German- or Italian-Americans were interned: all were symptoms of a racism that was reserved not just for African-Americans.

Things changed after the war. The Chinese and Indians were seen as allies, and the internment of Japanese came to be seen as wrong. As the civil-rights campaign changed attitudes to race, the new immigration act enabled people to be admitted on the basis of skills and family relationships. Asia's large population and fast-developing economies have meant an abundant supply of skilled aspirant Americans. In 2013 the numbers of both Chinese and Indian migrants overtook Mexicans for the first time.

Asia being a big place, Asian-Americans are a various lot, who came at different times, for different reasons and with different levels of education and prosperity. The Japanese mostly arrived before the second world war, the Chinese from the 1980s onwards. The Indians and Chinese are on average well educated and prosperous, whereas the (small numbers of) Cambodians, Laotians and Hmong are struggling. The Japanese—the only Asian group mostly born in America and more likely than not to marry a non-Asian—are closer in attitudes and educational level to the American population as a whole. But on average Asian-Americans are unusually well educated, prosperous, married, satisfied with their lot and willing to believe in the American dream: 69% of Asians, compared with 58% of the general public, think that "most people who want to get ahead can make it if they are willing to work hard."

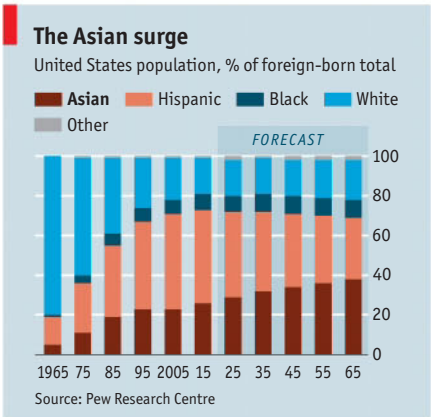
It is their educational outperformance that is most remarkable: 49% of Asian-Americans have a bachelor's degree, compared with 28% of the general population. Whereas Asian-Americans make up 5.6% of the population of the United States, according to the complaint to the Depart- ▸▸

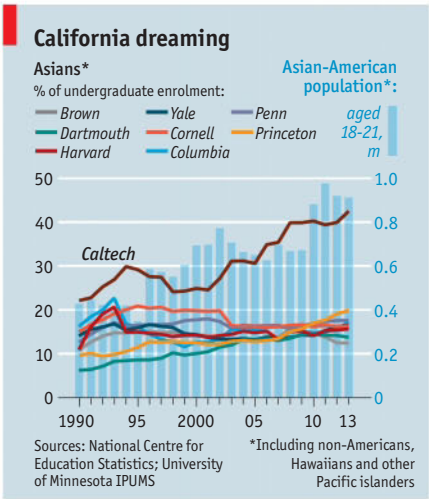
ment of Education they make up more than 30% of the recent American maths and physics Olympiad teams and Presidential Scholars, and 25-30% of National Merit Scholarships. Among those offered admission in 2013 to New York's most selective public high schools, Stuyvesant High School and Bronx High School of Science, 75% and 60% respectively were Asian. The Asian population of New York City is 13%. Surging immigration is likely to increase the disparity between Asians and other groups, because recent immigrants are even more highly qualified than earlier cohorts: 61% of recent immigrants from Asia have a bachelor's degree, compared with 30% of recent non-Asian migrants.

Why do they do so well? Amy Hsin of the City University of New York and Yu Xie of the University of Michigan examined the progress of 6,000 white and Asian children, from toddlers through school, to find an answer. They rejected the idea that Asians were just innately much cleverer than whites: there was an early gap in cognitive abilities, but it declined to insignificance through school. The higher socioeconomic status of Asian parents provided part of the explanation, but only a small part. Their data suggested that Asian outperformance is thanks in large part to hard work. Ms Hsin and Ms Xie's study showed a sizeable gap in effort between Asian and white children, which grew during their school careers.

When the researchers asked the children about their attitudes to work, two differences emerged between Asian and white children. The Asians were likelier to believe that mathematical ability is learned, not innate; and Asian parents expected more of their children than white ones did. The notion that A- is an "Asian F" is widespread. Another study, by Zurishaddai Garcia of the University of Utah, shows that Asian-American parents are a lot likelier to spend at least 20 minutes a day helping their children with their homework than any other ethnic group.

In "The Asian American Achievement Paradox", a study based on interviews with young Chinese and Vietnamese in Los Angeles, as well as Mexicans, whites and blacks, Jennifer Lee and Min Zhou argue that it is not just what happens at home that matters. They point to "ethnic capital"—the fact that these groups belong to communities that support education—as part of the explanation.





The Asian-American interviewees recall wearily their parents dangling the PhDs of cousins and neighbours in front of them. Being part of an entrepreneurial society helps. The four-inch-thick Southern California Chinese Yellow Pages, which lists Chinese businesses, offers thousands of listings for Chinese-run SAT prep and tutoring services. Close links to the motherland are also an advantage, to parents at least. Children who rebel may be threatened with being sent to stay with family in China, and they know from relations there that teenagers in America, even Asian ones, get off relatively lightly compared with those in China.

Thanks to such pressures and hard work, many Asian-Americans do end up in top universities—but not as many as their high-school performance would seem to merit. Some Asians allege that the Ivy Leagues have put an implicit limit on the number of Asians they will admit. They point to Asians' soaring academic achievements and to the work of Thomas Espenshade and Alexandria Walton Radford of Princeton, who looked at the data on admissions and concluded that Asian-Americans need 140 SAT points out of 1,600 more than whites to get a place at a private university, and that blacks need 310 fewer points. Yet in California, where public universities are allowed to use economic but not racial criteria in admissions, 41% of Berkeley's enrolments in 2014 were Asian-Americans and at the California Institute of Technology 44% were (see chart above).

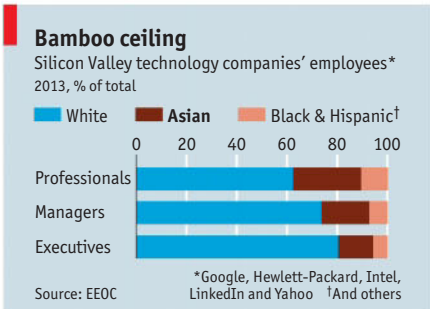
Racial prejudice of the sort that Jews faced may or may not be part of the problem, but affirmative action certainly is. Top universities tend to admit blacks and Hispanics with lower scores because of their history of disadvantage; and once the legacies, the sports stars, the politically well-connected and the rich people likely to donate new buildings (few of whom tend to be Asian) have been allotted their places, the number for people who are just high achievers is limited. Since the Ivies will not stop giving places to the privileged, because their finances depend on the generosity of the rich, the argument homes in on affirmative action.

Several states have banned the use of race as a criterion for admission to their public institutions and there have been several lawsuits against affirmative action. One, brought by Abigail Fisher (who is white) against the University of Texas, has been ricocheting between the Supreme Court and lower courts for seven years; in June the Supreme Court agreed to hear her appeal. In September, 117 Asian-American outfits under the umbrella of the Asian-American Coalition for Education filed a brief to back Ms Fisher. That case's outcome will bear on the one brought by the group of Asian students against Harvard and the University of North Carolina. Given that several Supreme Court judges, including John Roberts, the chief justice, are unsympathetic to affirmative action, the court seems quite likely to rule against it.

Too successful by half

For the moment the court has taken the view that universities may take race into account, but racial quotas are not on. The Ivies deny running a racial quota. But in its comment on the Asian groups' complaint, Harvard defends the use of race as a criterion in admission—"a class that is diverse on multiple dimensions, including on race, transforms the educational experience of students from every background and prepares our graduates for an increasingly pluralistic world"—and describes its admissions process as "holistic", meaning it takes into account considerations wider than mere test scores.

Many Asian parents think this is wrong. They woke up a long time ago to the need to counter the stereotype of the maths-nerd Asian who does nothing but work, and encouraged their children to diversify—into music, debating, charity work, sports, everything that is supposed to increase students' chances of admission. But many who have excelled in those areas, including Mr Wang and Irene Liu, a student from Massachusetts with a similarly stellar CV, were rejected by the Ivy League. Ms Liu's mother, Tricia, says, "I feel angry about it. We came for the American dream: you work hard, you do well. This just doesn't add up." Irene has accepted a place at a top Canadian university, and is happy about it. Her mother isn't: "It breaks my heart that she's going abroad. If she had gone to Harvard, I could have brought her dumplings."



Mr Wang doubts that Asians, in reaction, are likely to slack off. Asian parenting, he says, "isn't getting more relaxed. It's probably getting stricter, because parents realise they're going to have to work even harder. Standards are rising for everybody, but they're rising faster for Asians than for everybody else." As Arnold Jia, a 14-year-old from Short Hills, New Jersey, points out, the problem becomes circular. "To counter affirmative action we have to work harder than everybody else," he says. "And that reinforces the stereotype."

But the Asian-American community is unwilling on the whole to oppose affirmative action. It tends to vote Democratic, and many of its members recall the years when they were a despised, not a model, minority. So those who dislike the way the system works tend to argue for it to be adjusted, not abolished; and some say that Asians should actually support it.

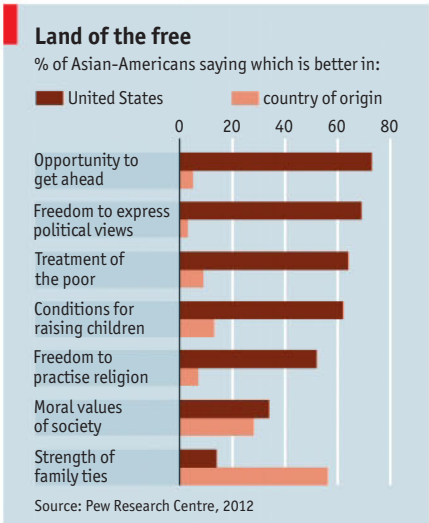
It is true that although Asian-Americans do remarkably well at school and university, and have high average incomes, in the workplace they are under-represented in top jobs. A "bamboo ceiling" seems to apply. Asians do well in the lower and middle levels of companies and professions, but are less visible in the upper echelons. Buck Gee, Janet Wong and Denise Peck, Asian-American executives who put together data from Google, Intel, Hewlett Packard, LinkedIn and Yahoo for a report published by Ascend, an Asian-American organisation, found that 27% of professionals, 19% of managers and 14% of executives were Asian-American (see chart above).

A similar effect is visible in the law. In 2014, whereas 11% of law-firm associates were Asian, 3% of partners were. Recruiters at the top firms typically throw out applications from all but the top universities and scan the remainder for their extracurriculars, says Lauren Rivera of Northwestern University. "They're particularly interested in sports, such as lacrosse, squash and [rowing] crew. When you look at the demographic base of these sports, Asian-Americans are not heavily represented."

At the very top of the tree, Asian-Americans are nigh-invisible. According to a study of *Fortune* 500 CEOs by Richard Zweigenhaft of Guilford College, in 2000 eight were Asian-American, and in 2014 ten were, whereas the women's tally in the same period rose from four to 24. Academia, similarly, is stuffed with Asian-American professors, but among America's 3,000 colleges there are fewer than ten Asian-American presidents, says Mr Gee.

High-flying Asian-Americans, like the three authors of the Ascend report, suggest that cultural patterns may contribute to the group's under-representation at the top. "There's something in the upbringing that makes Asians shy," says Mr Gee. "Engineers are nerds, but within that self-selected group of nerds, Asians are even more nerdy." "We're brought up to be humble," says Ms Wong. "My parents didn't want to rock the boat. It's about being quiet, not making waves, being part of the team. In corporate life, you have to learn to toot your horn." "There's a natural order of human relationships in Confucianism," says Ms Peck. "You don't argue, you don't contradict authority." Asian-Americans are a large, diverse group exposed to a range of influences, but those who do reflect such patterns may be less likely to bid for leadership, even if they are highly qualified. The comparative prominence of South Asians, who are less likely to be told not to "rock the boat"—for instance, Indra Nooyi at PepsiCo and Ajay Banga at MasterCard—is cited as anecdotal evidence.

Mr Gee, Ms Wong and Ms Peck, who run training courses to help Asians get promoted, recommend that they should network harder. But another study suggests that Asians may find getting mentors particularly tough. Researchers at Wharton Business School, Columbia University and New York University wrote an identical e-mail to 6,500 professors, ostensibly from students wanting to meet the academic. White men got notably more responses than other groups; Asian-Americans of both sexes got fewer. Since the Ivies produce a disproportionate number of CEOs, Congressmen and judges, the apparent bias against Asian-Americans at leading universities may also keep Asians out of leadership spots. "The ladder is being pulled away from our feet," says Tricia Liu. "If we can't go to the Ivy League universities, how can we get the positions in Wall Street, or Congress, or the Supreme Court?"



As Jerome Karabel's study of Jews and the Ivy League ("The Chosen: The Hidden History of Admission and Exclusion at Harvard, Yale and Princeton") shows, it was only when Jews had gained political power that the Ivies stopped discriminating against them. And Asian-Americans are under-represented in politics as well as in business. Only 2.4% of the 113th Congress were Asian-Americans; by one count, fewer than 2% of state legislators are.

Where is Senator Kim?

South Asians, though less numerous than East Asians, are more visible. Nikki Haley, governor of South Carolina, and Bobby Jindal, governor of Louisiana, both Indian-Americans, are the only Asian-American governors in the lower 48 (David Ige, a Japanese-American, is governor of Hawaii). The contrasting political traditions of India and China may also be a factor. "We come from the largest democracy in the world," says Sayu Bhojwani, who runs the New American Leaders project, which helps train immigrants to flourish in politics. "We're prepared for it in the way that East Asians are not."

In China, by contrast, "We went through the cultural revolution," says Chunyan Li, a former employee of the Chinese finance ministry, now a professor of accountancy at Pace University in New York. "There's a lack of trust in politics."

Perceptions that Asian-Americans are being treated unfairly, especially in the workplace, may push more of them into politics. Andrew Hahn, a Korean-American partner in Duane Morris, a law firm, says, "I used to be a Twinkie, or maybe a banana—yellow outside, white inside—but once I hit the legal profession, I became a radical."

College admissions—and the lawsuit against Harvard—may provide a spark to fire Asian-Americans into becoming more assertively political. Many in California were infuriated last year by a bill to rescind the state's ban on using race in university admissions promoted by a Hispanic state senator. A Change.org petition and 36 organisations, 26 of them Asian-American, opposed the bill, and it was dropped. "There's a growing community angst," says Mr Hahn of the belief among Asian-Americans that they are being discriminated against. "What's next? Law school admissions? Employment?" He organises political fund-raisers, and says that the coffers have opened. "Hedge-fund money, private equity, lawyers. They're giving huge sums …It took the Jews half a century to get where they are," he adds. "I hope it doesn't take us that long." ■

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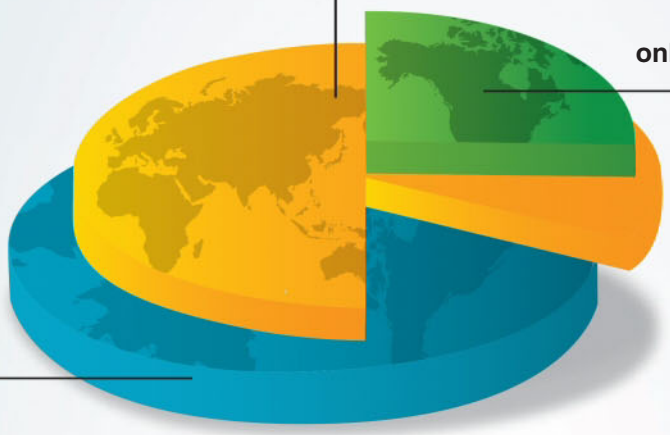

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[1]Source: MSCI All Country benchmark returns 1983–2013.

[2]Source: Gross domestic product based on purchasing-power-parity (PPP) share of world total. IMF, Haver Analytics.

[3]Source: FactSet as of 11/30/2013. Data presented for the MSCI AC World Index, which represents 44 countries and contains 2,436 stocks. The index is not intended to represent the entire global universe of tradable securities.

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Lethal injection

Cruel and increasingly unusual

JACKSON, GEORGIA

A troubled execution illustrates why the death penalty's days may be numbered

IN THE hours before her execution, Kelly Gissendaner observed the ghoulish regimen of the condemned. She thanked her lawyers. She had a physical check-up, to confirm she was in a fit condition to die. She ate a final meal that included two Whoppers with cheese and ice cream. She told her three children, whose father she conspired to murder, that she loved them.

All this took place on her second execution date. On the first, bad weather made the trip to Georgia's lethal-injection chamber too risky. On this second occasion, in March, Ms Gissendaner was waiting in an anteroom to death when the procedure was delayed, then rescheduled, then put off indefinitely. Her third death date was set for September 29th and carried out shortly after midnight, one of three executions planned in America this week.

Another, that of Richard Glossip, who was due to be executed in Oklahoma the next day, was dramatically postponed at the last minute. His conviction in the murder of a motel-owner in 1997 rested largely on the shaky evidence of a man who performed the killing, and who avoided a death sentence by blaming Mr Glossip; his supporters maintain that he was framed. Ms Gissendaner's guilt was not in doubt; yet her case suggested other, potentially fatal weaknesses in America's death penalty.

Most striking, for some, was her sex. Georgia had not executed a woman since 1945 (that one was posthumously pardoned); only 15 others have been executed in America since the Supreme Court reinstated capital punishment in 1976. The circumstances of her crime and conviction are another quirk. In 1997 Ms Gissendaner urged her lover, Gregory Owen, to kill her husband, Douglas Gissendaner; she provided the cosh and knife used to bludgeon and stab him. By pleading guilty and testifying against her, Mr Owen earned the possibility of parole after 25 years. She took her chances in court.

Like Mr Glossip's, hers is thus a vanishingly rare case of a death sentence handed to someone who wasn't present at the deed; moreover, one in which the weapon-wielding accomplice received a softer punishment. For some, that is further evidence of the caprice with which the death penalty is applied, a problem highlighted by differential treatment of black and white murderers. "The idea that [Gissendaner] is the worst of the worst? I don't think so," says Stephen Bright of the Southern Centre for Human Rights. Such inconsistency, exemplified in another Georgian case, led the Supreme Court to suspend the death penalty temporarily in 1972.

But ultimately the greatest import of Ms Gissendaner's case may lie in its implications for the practice of lethal injection—in recent decades overwhelmingly the main method of execution—which once seemed to offer a fail-safe way to kill prisoners in a country both vengeful and squeamish. In March her execution was chaotically delayed because the lethal suspension became cloudy. Worry about the condition of a fatal drug might seem over-scrupulous, but the risks of faulty techniques were agonisingly illustrated last year by botched executions in Ohio, Arizona and Oklahoma, where a prisoner writhed for 43 minutes before dying of a heart attack. Such amateurism in turn reflects what may be lethal injection's biggest problem: acquiring the lethal drugs to inject.

That might seem odd too, given the small quantities involved. But because of European Union export bans and the reluctance of pharmaceutical firms to make or supply the ingredients, states that practise execution have been obliged to find alternative concoctions and sources—often relying on lightly regulated "compounding pharmacies", or latter-day apothecaries. Georgia's tragicomic experience is emblematic. Running short of drugs, it wound up importing a batch from a pharmacy that shared its premises with a driving school in suburban London; that was confiscated by federal officials in 2011. When orthodox supplies of another drug dried up Georgia turned to a compounding pharmacy. On October 1st, after *The Economist* went to press, Virginia had been due to conduct this week's third execution—of Alfredo Prieto, a multiple murderer with (his lawyers claim) intellectual disabilities—using drugs it begged from Texas. That favour led to another last-ditch hearing.

In 2013 Georgia, like several other states, passed a law that conceals most details of its executions. Theoretically such laws protects pharmacists from harassment; in fact, say activists, they allow states to hide the origins of their drugs or to use them without manufacturers' consent. As a result, why the drugs meant to kill Ms Gissendaner turned cloudy is also opaque. The ▸▸

state's claim that they were stored at the wrong temperature (a mistake easily rectified) was not vindicated by its own tests.

The Supreme Court recently upheld one variant of lethal injection, in a case brought by Mr Glossip and other Oklahoma inmates; the majority opinion argued, in effect, that execution was bound to hurt a bit. But shenanigans like those in Ms Gissendaner's case are discrediting the practice—and eventually these logistical and moral problems may prove insurmountable. In anticipation, some states have legalised electrocution, gassing or the firing squad as back-ups. Public opinion, however, is much less favourable towards these less sanitised, more graphic methods. If lethal injection becomes impractical, predicts Robert Dunham of the Death Penalty Information Centre, a lobby group, more states may give up executions altogether. It is already a niche activity: if Virginia kills Mr Prieto, it will be only the sixth state to execute someone this year.

Ms Gissendaner's lawyers argued that her on-off execution in March constituted the "cruel and unusual" punishment prohibited by the constitution, and that, in the absence of detailed information about them, so might the intended execution drugs. They documented her rehabilitation since her conviction 17 years ago, a spell roughly equal to last year's national average for the condemned. And if criminals change during such interludes, so can the society that sentenced them. Danny Porter, the district attorney who sought the death penalty for Ms Gissendaner, insists he would do so again. All the same, death sentences are becoming rarer, even for more horrific crimes, in part because some victims' families are shunning the legal ordeal they entail. Even James Holmes, who killed 12 people in a cinema in Colorado, got life without parole. In Texas, by far the death penalty's most enthusiastic exponent, no one has been sentenced to death this year. Juries, like pharmaceutical firms, are helping to kill capital punishment.

Last rites

None of these arguments availed Ms Gissendaner. Dawn Skorcik, a former prisoner, said outside the state prison in Jackson that Ms Gissendaner had talked her out of despair, communicating through an air vent when Ms Skorcik was in solitary confinement. Other fellow inmates pleaded for clemency, as did the Vatican and Ms Gissendaner's children, though her husband's parents and siblings wanted her to be executed. Just after midnight, as mist descended on the pine grove where protesters prayed, she apologised to her in-laws from the gurney and sang "Amazing Grace" as the drugs flowed in. This time there were no complications; but her case had already helped to show that there is no clean way to kill a person. ■

Hillary Clinton in the South

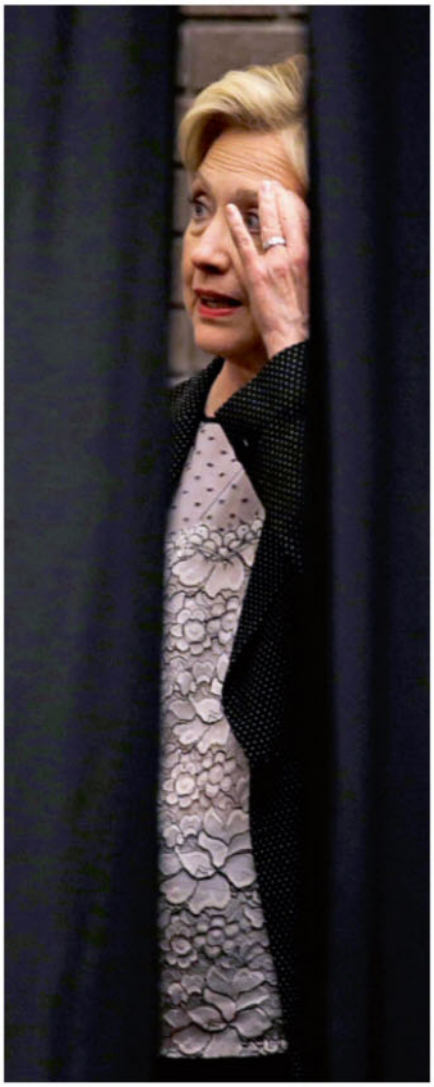
Not quite fireproof

CHARLESTON, SOUTH CAROLINA

The Democratic front-runner has a commanding, but not insuperable, advantage

LIKE most residents of Eastside in Charleston, a poor, mostly black, quarter of the South Carolinian port-city, Joe Watson, a grocer with strong political views, backed Hillary Clinton in the 2008 Democratic primary contest. At least, he did until the news from Iowa and New Hampshire suggested Barack Obama could actually win the thing, at which point he, and millions of other black voters across the South, abruptly ditched Mrs Clinton. But now, he says, raising his eyes from the Bible he keeps open on the counter of Mary's Sweet Shop, he is for her again.

"Women got that focus, got that desire to help people, got that greater fellowship than us men," he muses, pointing the interviewer to the polished stool he reserves for political talk. He likes her chances, too. After Mr Obama secured the Democratic nomination, Mr Watson rounded up 300 new voters for him; "They were so joyous in their cause, and it can be that way for Hillary, too."



Front-runner, backstage

There is, in fact, little levity around Mrs Clinton's campaign. Her lead over the Democratic field has shrivelled in recent weeks, as she has failed to quash a scandal over the private e-mail server she used while secretary of state and the left-wing excitement being generated by Bernie Sanders. But if this suggests she might stumble again in Iowa and New Hampshire, where the socialist senator from Vermont is relatively strong, she looks much likelier to hold firm in South Carolina, which will hold the fourth Democratic ballot on February 27th, ahead of a raft of southern states three days later.

The Spanish-moss strategy

Mr Sanders is hardly known in the state, where over half of Democrats are black and generally well-disposed towards Mrs Clinton. Mr Watson says he has encountered some Sanders fans among the white university students, drawn to Eastside by its low rents, who sometimes take a turn on his stool; but most people are for Mrs Clinton. A recent poll in South Carolina gave her 66% of the Democratic vote and Mr Sanders 12%. Even if Joe Biden, the grief-stricken vice-president, were to enter the race, she would get over half the vote.

That lead, which is replicated in Alabama, Arkansas, Georgia and other southern states with many black voters, looks to be a formidable insurance—or some say "firewall"—against Mrs Clinton's travails further north. Her campaign machinery in South Carolina, which will be extended across the South, also looks stronger than it did in 2008.

Led by veterans of Mr Obama's winning campaigns—including Marlon Marshall, a Clinton old-timer who is in overall charge of the states—the Clinton campaign has 14 staffers in South Carolina who have been hard at it for six months, using the same organising methods as Mr Obama. Mr Sanders has held two rallies in South Carolina; Mrs Clinton, who has held three, has in addition built networks of over 2,600 semi-autonomous volunteers, in black churches, schools and neighbour-

hoods, and through them made contact with over 100,000 voters. "It's people talking to people that wins elections," said Mr Marshall, while briefing 25 neighbourhood leaders in Charleston this week. "That old-school organising."

In the next room, another dozen volunteers were working the phones, recruiting helpers for the 50 phone banks they aimed to have running at the weekend. They were overseen by a formidable 61-year-old, Miss Brenda, who, having been forced into early retirement by the federal government, said she had found in Mrs Clinton's struggles an inspiration for her own. "I'm one of those people who's been knocked down but not knocked out," she said. "Hillary's like that. She's a fighter."

Yet, even among her supporters, not many have such strong feelings for Mrs Clinton—which is why her position may be more fragile than it seems. In part, her wilting ratings represent the inevitable settling of a contest which she entered with stellar ratings and no serious challenger. They also reflect her leaden-footed failings as a campaigner. She should have admitted her error over the e-mail scandal; instead she obfuscated, dragging it out, before issuing a grudging apology. At the first hint of a challenge from Mr Sanders, she should have become more visible, voluble and open to interrogation, as he is. She has instead been distant and controlled, a risk-averse establishment candidate in an iconoclastic time.

This appears to have reminded some Democrats of what they dislike in Mrs Clinton—her elite status, sharp edges and history of getting into trouble. Even some of her most notable Carolinian supporters, whom your correspondent was encouraged to call by her campaign team, showed little enthusiasm for her. "I don't feel the excitement we used to feel," said Joyce Dickerson, a county councillor in Columbia, who said she had no plans to campaign for Mrs Clinton. "She didn't make calls for me, so I ain't going to make calls for her."

The fact is, Mrs Clinton is still strong in the South; yet talk of a firewall there belies how dynamic politics is. An awful result in the early primaries would change voters' perceptions of her everywhere. Southern voters will also by then know more about her rivals—especially if Mr Biden runs. Her decision to replicate Mr Obama's campaign machine is wise; but unless she can get her volunteers fired up and ready to go, there is no guarantee it will work. ■

Meth v alcohol

The heirs of Al Capone

NEW YORK

Dry counties have more meth labs

IN "Breaking Bad" a high-school chemistry teacher from Albuquerque, New Mexico, sets up a crystal-meth lab to pay his medical bills. The television series, though entertaining, was unrealistic: meth labs are relatively rare in the American south-west. Although meth-usage rates are reported to be highest in the West, states in the Bible belt have the most meth labs. A survey in 2010 noted that counties containing meth labs tend to be disproportionately poor, white and evangelical.

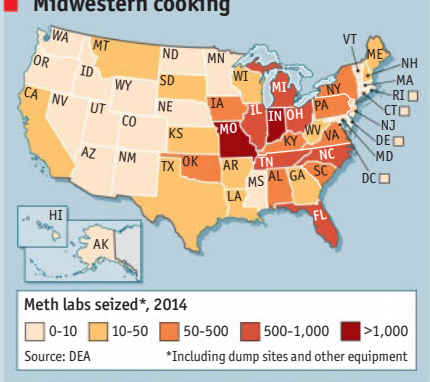
Those same communities also happen to be the ones with stiffest restrictions on the sale of alcohol. When Prohibition ended in 1933, local governments began implementing their own bans on alcohol sales, many of which remain to this day. Fifty-three of Kentucky's 120 counties have some sort of restriction on the sale of alcohol, while another 31 ban its sale altogether. One question posed by social scientists is whether alcohol is a complement to, or a substitute for, drugs. A new paper by Jose Fernandez, Stephan Gohmann and Joshua Pinkston of the University of Louisville claims the latter, suggesting that lifting the ban on alcohol would lead to a drop in meth use.

The authors argue that local prohibitions lower the price of drugs such as meth relative to alcohol. This is hard to prove, because dry counties share many traits with counties that have meth problems. The authors claim that after controlling for factors including income, poverty, population density and race, legalising the sale of alcohol would result in a 37% drop in meth production in dry counties in Kentucky, or by 25% in the state overall.

Since no one knows exactly how many meth labs there are in America, the paper uses those discovered by the police as a proxy for meth production (see map). They provide further evidence for their argument by noting that lifting the ban on selling alcohol would also reduce the number of emergency-room visits for burns from hot substances and chemicals (amateur meth-producers have a habit of setting themselves alight).

A paper written in 1983, "Bootleggers and Baptists", noted that support for Prohibition came from two groups with radically different motives: Baptists who abhorred drinking on moral grounds, and opportunists who saw an opportunity to profit from bootlegging. If Congress were to propose reinstating Prohibition, perhaps meth-dealers would join the ranks of supporters.

Midwestern cooking



Congress

Exit John Boehner

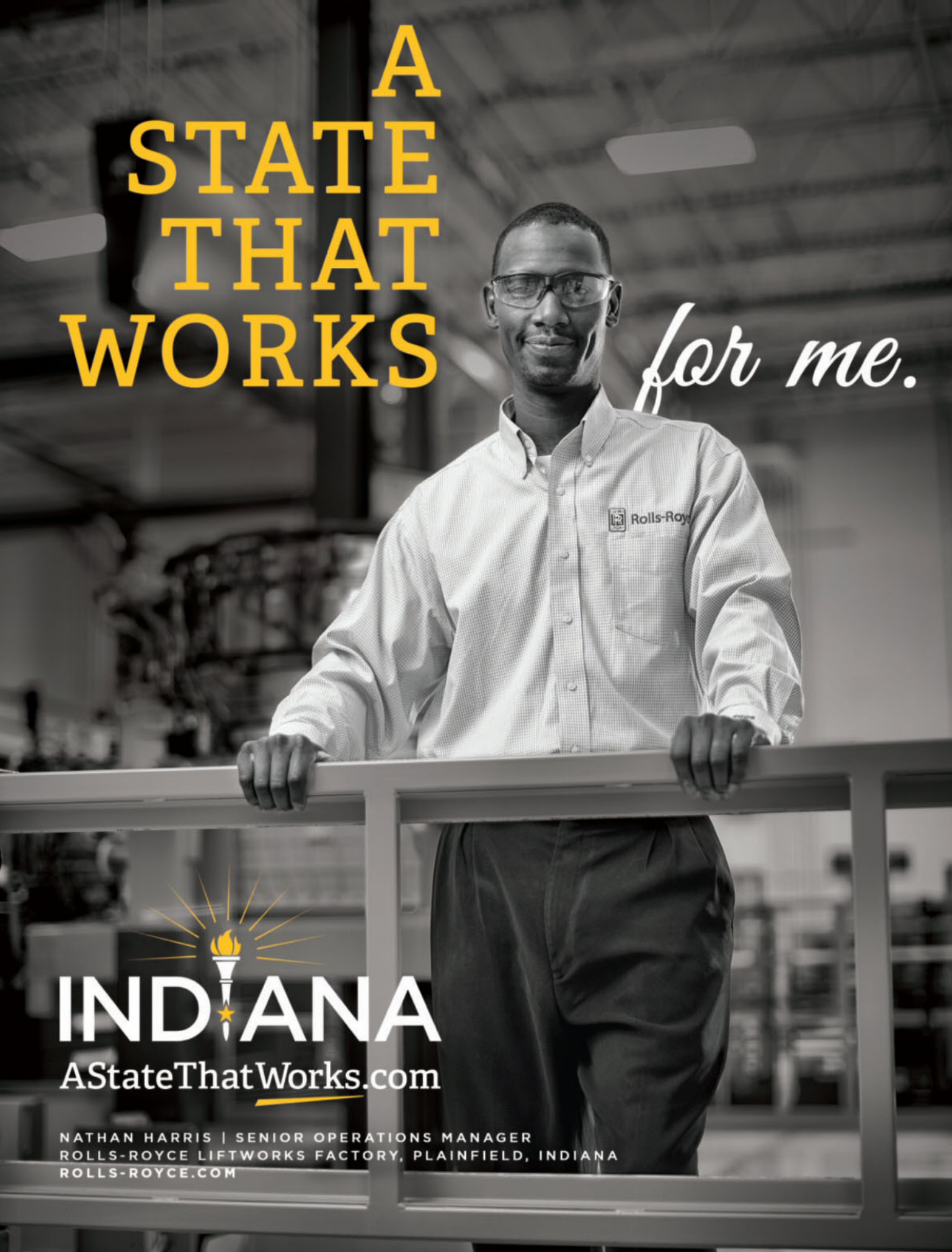
WASHINGTON, DC

The resignation of America's top Republican will not change much

ON THE day that he announced his resignation as Speaker of the House of Representatives, September 25th, John Boehner treated reporters to a burst of "Zip-a-Dee-Doo-Dah". It was hard to begrudge Mr Boehner a few bars of song: his nearly five years as the most powerful Republican in America have been made wretched by endless revolts from the hard-right. Alas, Mr Boehner's departure at the end of October will do little to heal their cause: a deep dispute within the Republican Party about congressional power, and whether it is best used to affect incremental change, or to pursue unyielding ideological combat.

The betting is that Mr Boehner will be succeeded by the current House majority leader, Kevin McCarthy, an amiable Californian. Mr McCarthy will not be trilling about wonderful days or bluebirds any time soon. There are 247 Republican members in the current House of Representatives. Mr Boehner's woes centre on about 40 or 50 of them. These members either believe, or represent districts full of voters who believe, that the country should have taken a decisively conservative turn after Republicans won control of the House in 2010, and especially after their party added control of the Senate in 2014. In vain, Mr Boehner and other party leaders point to the Democrat sitting in the White House, and the many checks and balances built into the American system of government.

Mr Boehner is no moderate squish. He is, however, easy to paint as a Washington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insider. He is a golf-loving, chain-smoking, Merlot-quaffing, small-government Reagan conservative of the sort that can be found in Rotary Clubs and chambers of commerce across the country. He entered Congress in 1991, serving as a lieutenant to Newt Gingrich. A tireless fundraiser, he is unashamed to count corporate lobbyists as friends (and frequent golf partners), many of them former staffers who make up a network dubbed "Boehnerland".

A recent poll showed that 62% of Republican supporters feel "betrayed" by their party. If they cannot pass laws to cut away at Mr Obama's agenda, hardliners itch to use blunter instruments. These include blocking rises in the federal debt ceiling and shutting down the government rather than allow public money to be spent on programmes that displease them. They are deaf to arguments that Republicans can change the country only by controlling the White House as well as Congress—and that shutdowns alienate voters needed to win the presidency.

Mr Boehner spent years letting hardliners test their theories to destruction. After a disastrous government shutdown in 2013, he explained that many members wanted that fight, and he had joined them because "a leader without followers is simply a man taking a walk." Mr Boehner cannot be blamed for colleagues' delusions, but at times Republicans privately struggled to see what his Speakership was for.

As a lame duck Mr Boehner is now free to use Democratic votes to pass some measures, starting with a short-term bill to fund the government until December while Republicans debate strategies for denying money to Planned Parenthood, a group that provides abortions. Other pressing tasks include the debt ceiling, funding federal highway construction and possibly renewing the authority of the Export-Import Bank, an export-finance agency.

In a striking interview on September 29th with Fox News, a TV channel, Mr McCarthy said he agreed with voters who felt betrayed by Republican leaders, and gave Mr Boehner's Speakership a grade of B minus. But when asked if he would shut the government to thwart Mr Obama, he talked of seeking strategies to "fight and win". In today's House of Representatives, a blocking minority of Republicans will settle for a fight. ■

Virtual reality and Beethoven

Dimension No. 3

LOS ANGELES

Technology could help classical music attract new audiences

THE AREA onstage near an orchestra's conductor is usually reserved for violinists, violists and cellists. But put on a virtual-reality headset, and you are so close to Gustavo Dudamel, the wild-haired conductor of the Los Angeles Philharmonic, that he almost hits you with his baton. He is consumed with conducting Beethoven's Fifth Symphony, and you have the sensation of enjoying a private performance. The project, which introduces classical music to people who have never set foot in a concert hall, is touring Los Angeles in a van.

Most days the appropriately named Van Beethoven is parked outside the Walt Disney Concert Hall, the LA Philharmonic's home. Inside are several concert seats and pairs of virtual-reality headsets, which render a scene in three dimensions. The aim is to use technology to entice a new flock of concertgoers to attend a real-life version, says Amy Seidenwurm, who speaks for the orchestra.

Classical concertgoers are becoming greyer and rarer. In 2012 around 9% of American adults attended a classical-music event, a quarter less than in 2002, according to the National Endowment for the Arts. A third came from families earning $100,000 or more a year. Moreover, those used to "on demand" digital music can be less keen on showing up at a set time, to hear something someone else has chosen to play for them.

The Philadelphia Orchestra has tried playing three excerpts from different scores, letting the audience vote for the one they would like to hear the rest of. Others have added longer intervals in bars, or jazz after concerts. "It's a tough balancing act to adapt to what that new generation's preferences are and retaining the integrity of what an orchestra is," says Jesse Rosen of the League of American Orchestras.

Until recently virtual reality was a futuristic technology, but it is slowly penetrating real life. In November Oculus, a company owned by Facebook, will join Samsung to sell a virtual-reality device for $99. This should be great for orchestras like the LA Philharmonic. However, some consumers are bound to wonder why it is worth going to a real-life concert when they can have one of their own on their sofa, and never worry about being late.

The Dude, with rug

Explaining low inflation

The lowdown

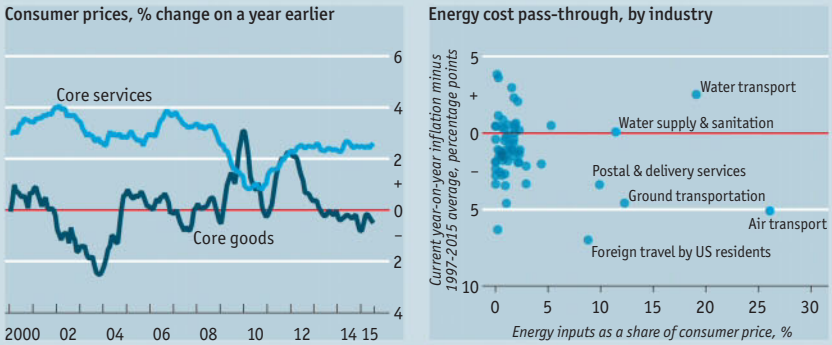
WASHINGTON, DC

Persistent low inflation results from more than cheap oil and a strong dollar

INFLATION has lingered beneath the Federal Reserve's 2% target for nearly as long as the goal, set in January 2012, has existed. Lately, the misses have been whopping. Data released on September 28th showed that prices have risen by only 0.3% over the past year, according to the Fed's preferred measure. Conventional wisdom says this shortfall has been caused by one-off factors; chiefly, tumbling oil and commodities prices. For months, the Fed has said that prices will pep up once these effects dissipate. Could it be wrong?

Conventional wisdom is right, up to a point. Core inflation, which excludes fuel and food prices, is a healthier 1.3%. Yet this is still too low. In a speech on September 24th Janet Yellen, the Fed's chairman, said a strong dollar—another one-off factor—was partly to blame. The greenback is 15%

Everyday low prices



Sources: Bureau of Labour Statistics; Goldman Sachs Global Investment Research

cheaper than a year ago on a trade-weighted basis. This has made imports cheaper and kept costs down for firms that rely on imported parts. If Ms Yellen is right, and if the dollar does not rise further, core inflation should rebound in 2016, with the headline rate not far behind.

Yet not everyone is convinced. A strong dollar should drive the price of goods more than that of services. Clothes can be imported, but haircuts cannot. Excluding food and fuel, services inflation is 2.6%, whereas goods are getting cheaper. But this decoupling is hardly recent; services account for most core inflation since the turn of the millennium (see chart). Today, it is core-service inflation, not core-goods inflation, which has fallen furthest from its long run trend, according to David Mericle and Chris Mischaikow of Goldman Sachs. That suggests the dollar is not a pivotal factor.

What, then, has caused service inflation to slow? In theory, cheap fuel could bring down prices in some service industries by reducing costs. But with the exception of transportation, the relationship between an industry's use of fuel and recent price moderation looks sketchy (see chart).

Instead, some of the factors in play are sector-specific. A sharp slowdown in health-care inflation has knocked about 0.4 percentage points off core inflation, reckon Messrs Mericle and Mischaikow, more than in any other industry. This is partly because of legislation: Obamacare reduced some payments to hospitals under Medicaid, a health-care programme for the poor. Demography could be chipping in, too. A greying population means more Americans are eligible for Medicare, government provided health care for the over-65s. Because Medicare pays hospitals less than private insurance, that pushes overall costs down.

The best across-the-board explanation for low core inflation, though, is slow growth in wages, which are the most important cost in many service industries. Both wage growth and service inflation reached highs exceeding 3.5% before the crisis; today, both are closer to 2.5%.

That helps to justify the Fed's keen eye on the labour market. The unemployment rate, which was due to be updated after *The Economist* went to press, has been steadily falling. But how long it will be before this translates into higher wages is something of a mystery. Low inflation was a problem before the oil price and dollar acted up. It may still be a problem when they calm down. ■

The Supreme Court

Gavels ready

NEW YORK

The justices are poised to veer right in their new term

AFTER springtime rulings friendly to gay rights and Obamacare, the Supreme Court is likely to swing back to the right when the justices dust off their robes and return to work on October 5th. Of the roughly three dozen cases they have already agreed to hear in their new term, as well as a few that seem destined for the docket, a handful could shake America's political landscape.

A blow to public-sector unions looms in *Friedrichs v California Teachers Association*. The Centre for Individual Rights, a libertarian law firm, is representing ten teachers in California who object to the union fees they must pay. No one can be forced to join a union, but the Supreme Court ruled in 1977 that teachers, police officers and other public employees can be compelled to pay a "fair share" fee equivalent to membership dues. The justices reasoned then that since unions negotiate for benefits on behalf of a whole sector, such a charge prevents those who refuse to join a union from free-riding on those who do.

But the teachers say these fees violate their freedom of speech. In their brief to the justices, Thomas Jefferson plays a starring role: "To compel a man to furnish contributions of money for the propagation of opinions which he disbelieves," the Founding Father is quoted as saying, "is sinful and tyrannical." If five justices agree that Jefferson's sentiment applies in this context—and several hinted in a ruling of 2014 that they do—then public-sector unions could face a crisis of funding and a steep decline.

Fisher v University of Texas offers the justices a chance to overturn precedents upholding race-based affirmative action at public universities. In 2008 Abigail Fisher applied to the University of Texas at Austin, where admissions officers take note of an applicant's race as part of their effort to improve student diversity. Ms Fisher, who is white, was rejected. She contends that the university's policy constitutes racial discrimination and is therefore banned by the 14th Amendment. In 2013, after the Fifth Circuit court had rejected Ms Fisher's claim, the Supreme Court told the lower court to reconsider its ruling. A year ago the Fifth Circuit again upheld the preferences, spurring Ms Fisher's second petition to the justices. This time, many observers expect the court to rule in her favour and possibly to abandon its decision in *Grutter v Bollinger*, in 2003, which allowed limited consideration of race in higher education.

In *Evenwel v Abbott*, the court will clarify its ruling from more than half a century ago that states must apply the principle of "one person, one vote" when drawing up electoral districts. Texas, like most states, uses the total number of people as the denominator when drawing district lines. But Sue Evenwel and Edward Pfenninger, Texans who live in districts with many eligible voters, complain that this dilutes their voting power. They have less representation, they say, than voters in districts with large numbers of felons, children and aliens—people who are ineligible for the franchise. If the court agrees with the plaintiffs, all 50 states will need to rip up their district maps and draft new ones. Electoral power will shift from cities to rural areas, where higher concentrations of eligible voters, and Republicans, live.

Few hot-button issues will escape review: racial bias in jury selection, criminal justice for juveniles and the death penalty are all on the calendar. The justices have not taken an abortion case since 2007, but this year there is a good chance that they will hear one or more challenges to stringent new rules that aim to shut down abortion clinics in Mississippi and Texas. At issue is whether these regulations place an unconstitutional "undue burden" on a woman's right to have an abortion. Another related case may also get a hearing, this time involving religious non-profit groups who are unhappy with the Affordable Care Act's birth-control mandate—and with the Obama administration's attempt to exempt them from the requirement. ■

Lexington | Ben Carson, false idol

Republicans are deluded if they think the soft-spoken surgeon is their saviour

AMERICA is having a Ben Carson moment. In July half of all Republicans told pollsters they had no clear sense of Dr Carson, a 64-year-old retired brain surgeon. Now he has surged to the front of the field of Republican presidential hopefuls. A recent poll put him within a percentage point of Donald Trump, the raucous property magnate who dominated politics all summer.

Dr Carson is not raucous. Softly-spoken, even drowsy, he shares Mr Trump's disdain for conventional politics and his impatience with the detail of policy. Like his rival he presents himself as a providential outsider, entering the arena to save a great nation in peril. But whereas Mr Trump specialises in finger-jabbing, red-faced theatrics, Dr Carson offers a surgeon's lofty calm.

Both men's campaigns are built around striking life stories. Mr Trump, born into wealth and obsessed with success, promises to turn ordinary folk into "winners". Dr Carson was brought up by a black single mother in Detroit. Hot-headed as well as poor, he nearly killed a teenage rival before finding God and his medical calling. He has long been hailed in schools and inner-city churches as a role model for black youth. His memoirs, entitled "Gifted Hands" and recording such triumphs as the first successful separation of Siamese twins joined at the back of the head, are a staple of Christian homeschool curriculums.

Asked about his success in an interview aboard his campaign bus this week, Dr Carson talked of an "awakening", as Americans start to "think for themselves". His bus is decorated with the slogan "Heal, Inspire, Revive", as well as the names of thousands of children in tiny letters, each representing a $50 donation (children's names paid for the whole bus in three days). If such language carries echoes of earlier, religious Great Awakenings, that is no accident. Recalling his decision to run for the presidency, Dr Carson described a moment of prayer: "I said to God: 'All the pundits say it is impossible'." Nonetheless, if his Creator proved the pundits wrong and opened all doors in his path, then he would walk through them, he promised. Now, he said, those doors "appear to be flying open. So I am going to keep walking."

Dr Carson has collected $20m in mostly small donations in the past three months. Aides boast of his 4m followers on Facebook—a group whose most impassioned members are devout white women over 40. As a black Republican he offers white conservatives something unique in the 2016 field: ferocious criticism of Barack Obama that cannot be called racist.

The doctor is not one for back-slapping bonhomie. Campaign staff arranged for his bus to stop at a well-loved barbecue restaurant in Lexington, North Carolina. Leaving his bus, Dr Carson was asked by a news agency reporter if he liked barbecue. "No," replied the candidate, who as a Seventh-Day Adventist is a vegetarian. The mood was polite but not effusive as he greeted diners at their tables. It took the arrival of a family of openly ardent Christians to generate real warmth. Nelson Citta brought his wife and two young daughters to meet Dr Carson after driving past and seeing his parked campaign bus. "Excellent, excellent," said Dr Carson, waggling his fists happily upon learning that the Citta girls are educated at home by their parents.

The world of Christian philanthropy is Dr Carson's home turf. It is often an admirable place. He and his wife founded a scholarship programme for children from poor schools. He beamed as he toured a camp for sick and disabled children, built in North Carolina by a former NASCAR racing champion, Richard Petty. Dr Carson admired a theatre, bowling alley, car-racing museum and doughnut counter, each bearing a corporate sponsor's logo. A proper role for government is to facilitate private-sector philanthropy, he enthused. Praising Mr Petty's generosity, he added: "If we all took that attitude, we could take care of all our people."

Back on his bus, Dr Carson extolled America's traditions of voluntary assistance, praising pioneer settlements in which neighbours would bring in the crops of a farmer injured during harvest season, as "the expected thing to do". He has a talent for using parables to tell conservatives that they can have something they already want—a radically smaller government—and that, with "smart people" in charge, there will be no trade-offs, and indeed benefits for the poor. Thus when he calls for a 15% flat tax on income—a proposal that would offer high-earners huge tax cuts—he presents it as a biblically inspired "tithe" that would not harm public finances, in part because he would impose a three- or four-year hiring ban across the federal government and across-the-board spending cuts. As his bus rumbled along, Dr Carson grumbled about the "myth" that he would abolish government safety nets. Not at all, he said. When private charity grows, public safety nets will simply become "considerably less relevant".

Pious populism

Aides have dubbed Dr Carson's bus the "Healer Hauler". Alas, he brings little real healing to the country's unending culture wars. His murmuring tone often delivers hard-edged claims: that America is living in a "Gestapo age" of government bullying and political correctness, that Mr Obama lies like a "psychopath", or that abortion clinics cluster in black neighbourhoods to "control that population". Dr Carson recently saw campaign donations surge after he said he would not advocate that a Muslim-American could be president, unless that Muslim declared loyalty to the constitution above Islamic law—a disavowal that he suggested would make such a Muslim a heretic. When criticism followed, he declared that "dangerous forces" threaten the country.

Dr Carson, an accomplished man, has spent years in a cocoon of adulation. Now he is having his moment on a larger, more harshly lit stage. His fans are rallying round: "Our family is praying for you constantly," a young mother told him on a Carolina roadside. But his appeal is too narrow to win him the nomination. His moment will peak, then pass. ■

Also in this section

Venezuela's legislative elections

Muddled, yet united

CARACAS

Voters are eager for an end to chavismo. Can a disciplined but diverse opposition coalition deliver it?

SOME of its leaders are in jail. Others are banned from running for office. All are up against an autocratic government with formidable resources. Yet in legislative elections scheduled for December 6th, Venezuela's opposition has its best chance of winning a national victory since 1998, when the late Hugo Chávez, a charismatic populist, began his career of authoritarian misrule. The public is enraged by shortages of everything from poultry to pharmaceuticals, by inflation approaching 200% and by rampant corruption and crime. Recent polls find that 70% of respondents expressing a preference will vote for opponents of the Socialist government led by Nicolás Maduro, Chávez's hand-picked successor.

The prospective winner, the Democratic Unity (MUD) alliance, is a political mishmash. Formed in 2008, it houses ideologies from Marxism to free-market conservatism, united only by a shared loathing of the government. The MUD's most prominent leaders are Leopoldo López, a former mayor who was sentenced last month to nearly 14 years in prison on trumped-up charges of inciting violence, and Henrique Capriles, a state governor and former presidential candidate. Its electoral programme consists primarily of the incontestable, but deliberately vague, proposition that Venezuela "wants change".

Government supporters say the MUD's unity is an act. Both Mr Capriles and Mr López, they jeer, are playboy politicians who know nothing of the *barrios*. Were the coalition to take power, *chavistas* warn, Venezuela would return to the sclerotic, elite-dominated "fourth republic" that preceded Chávez's "Bolivarian revolution".

The evidence for this caricature is flimsy—particularly in the case of Mr Capriles, the popular governor of Miranda state, who nearly beat Mr Maduro in the 2013 election. The alliance has demonstrated impressive flexibility and stoic discipline in the lead-up to the election. It has persuaded its members to bury their differences and field a single opposition candidate for each seat. The government-controlled electoral commission sought to trip up the coalition by insisting that at least 40% of legislative candidates should be women, shortly after the MUD submitted a list that fell well short of that. The alliance responded by laboriously compiling a new slate that complied with the rules.

A stronger criticism of the coalition is that it would rather stay in opposition than govern. It has yet to offer a manifesto for reform of Venezuela's dysfunctional economy or hollowed-out state institutions. Its candidates defend their lack of concrete proposals by stressing that they are battling a system. Only once voters have reinstated a normal democracy, argues Julio Borges, a co-founder of Mr Capriles's party, can a genuine policy debate begin.

Since the one indisputable achievement of *chavismo* is its unblemished record in presidential and legislative elections, Luis Vicente León, a pollster, believes that losing the National Assembly—even by a single seat—would devastate the Socialists by shattering their illusion of invincibility. But the opposition's relative popularity is no guarantee that it will take over the chamber. Thanks to Venezuela's complex semi-proportional electoral system, compounded by flagrant gerrymandering under both Chávez and Mr Maduro, the MUD will need far more than a simple majority of votes to win control. Nonetheless, if the polls hold up and prove accurate, then in the absence of any electoral fraud the alliance's current lead of over 20 percentage points should prove sufficient. Even without the two-thirds minimum for constitutional changes, a majority could enable the opposition to schedule a recall referendum against Mr Maduro next year.

Optimists like Mr Borges hope that losing the legislature will lead moderate *chavistas* to oust the president and start cleaning up the mess that their movement's namesake left behind. This rosy scenario appeals to many MUD members, who are wary of bearing the political cost of the inevitably painful adjustments to come.

But that would require Mr Maduro's exit, and no one knows how far he will go to prevent a MUD victory. In June he said it would produce "chaos because our people would not surrender…I would be the first to throw myself onto the streets". The easiest ploy would be to use the government's dwindling cash reserves to reduce shortages: rumours abound of ships laden with goods steaming towards Caracas. Another time-honoured trick would be to devise new justifications for disqualifying MUD candidates. If that fails, a last-ditch tactic might be to delay the vote, under the pretext of a manufactured crisis like Venezuela's border disputes with Colombia or Guyana. Even if the coalition does prevail, it could take street protests and foreign pressure to make Mr Maduro relent. ■

Term limits in Bolivia

The man who would be king

LA PAZ

Evo Morales backtracks on a promise not to seek power after 2019

NEARLY a decade has passed since Evo Morales took office as Bolivia's first indigenous president. During his re-election campaign in 2014, he promised not to seek another term after this one. But the thin Andean air may be distorting lawmakers' memories. During an all-night session on September 26th, Mr Morales's legislative super-majority passed a reform that would allow him to run for another five-year term, which would expire in 2025.

If implemented, the change will reinforce a strong trend towards looser term limits, both within Bolivia and in Latin America overall (see table). Under the country's constitution of 2009, Mr Morales should by rights have been ineligible to run last year. However, the government argued that his first term should not count since it occurred before the new constitution was adopted. Bolivia's pliant Constitutional Court, which the opposition accuses of being lackeys of the president, duly accepted this logic.

On its own, the new law does not pave the way for the president to spend two decades in office. The proposal will now go to a referendum, currently pencilled in for February. Álvaro García Linera, the vice-president, is leading the government's campaign. His first salvo has been to question the commitment to democracy of the "no" side, arguing that they are denying voters the right to back Bolivia's most popular politician. His rivals counter that term limits are necessary only to dethrone leaders who would otherwise be re-elected indefinitely. "Latin America has learnt to its cost what happens when presidents are allowed to perpetuate themselves in power," says Óscar Ortiz, an opposition senator. The president's supporters also argue that many rich countries have no term limits—though most are parliamentary democracies that do not have presidents.

The opposition has an uphill climb. In a majority-indigenous nation, Mr Morales's unapologetically ethnic politics has given him an unbreakable majority. To make inroads with the president's base, the "no" side is likely to turn to Rafael Quispe, an indigenous Aymara lawmaker, who recently mocked the president's imperial aspirations by taking his seat in the National Assembly wearing a cardboard "Inca" crown. He is campaigning on the slogan "I also want to be king." "This is far from a government of the indigenous," Mr Quispe says. "The Aymara have a rule, *taqi muyu*. It means alternating leadership. In our communities a leader is elected for two years, three at most. They cannot come back again even if they beg us."

Latin America's presidential term limits

September 2015, ranked by leniency

Country	Term length Years	Latest change to term limits More/less lenient*	Year	Re-election permitted
Guatemala	4	–	*na*	No
Paraguay	5	–	*na*	No
Mexico	6	–	*na*	No
Colombia	4	▲	2005	**Once:** consecutively, then not again
Argentina	4	▲	1994	**Once:** consecutively, & again after 1-term gap
Brazil	4	▲	1997	**Once:** consecutively, & again after 1-term gap
Ecuador	4	▲	2008	**Once:** consecutively, & again after 1-term gap
Bolivia	5	▲	2015†	**Twice:** consecutively, & again after 1-term gap
El Salvador	5	–	*na*	**Unlimited:** non-consecutively, with 10-year gap
Panama	5	–	*na*	**Unlimited:** non-consecutively, with 2-term gap
Costa Rica	4	▲	2003	**Unlimited:** non-consecutively, with 2-term gap
Chile	4	▼	2005	**Unlimited:** non-consecutively, with 1-term gap
Dominican Rep.	4	▲	2002	**Unlimited:** non-consecutively, with 1-term gap
Peru	5	▲	1993	**Unlimited:** non-consecutively, with 1-term gap
Uruguay	5	–	*na*	**Unlimited:** non-consecutively, with 1-term gap
Honduras	4	▲	2015	**Unlimited**
Nicaragua	5	▲	2014	**Unlimited**
Venezuela	6	▲	2009	**Unlimited**

Sources: Freedom House; *The Economist* *Since 1990 †Proposed, to be ratified by a referendum

Canada's election campaign

Hair apparent

OTTAWA

Is the son of a prime minister ready to take over the top job?

When Justin Trudeau, the leader of Canada's Liberal Party, left a campaign rally last month, he received rock-star treatment. The crowd lay in wait, eager to shake his hand, snap a selfie, score an autograph or just get him to hold their children. Even as he reached his bus, people continued to call out "Justin!"

Mr Trudeau has been in the public eye since he was born on Christmas Day 1971 to a Liberal prime minister, Pierre Trudeau, and his much younger wife. Although the centrist Liberals are now Canada's third party, Mr Trudeau *fils*—the country's answer to the late John F. Kennedy junior—enjoys greater name recognition than Thomas Mulcair, whose leftist New Democrats (NDP) are the official opposition. Yet his fame is also a handicap. The centre-right Conservatives, led by Stephen Harper, mock his "nice hair", and say he "says things without thinking them through".

Like all good political ads, it holds a grain of truth. Mr Trudeau is indeed relatively inexperienced. Before he became an MP for part of Montreal in 2008, he taught maths and French in a secondary school. He has been prone to gaffes: in 2013 he said he admired China's control of its economy, and he made an ill-received joke about Russia and ice hockey during the Ukraine conflict. "He's impulsive and he doesn't like to be scripted," says Huguette Young, the author of a recent biography.

Yet Mr Trudeau has appeared more polished in the lead-up to the federal election on October 19th. He has tried to compensate for his lack of gravitas by hiring seasoned advisers. He turned in credible per- ▸▸

Bello | Dilma in the vortex

Brazil's economic and political crises are reinforcing each other

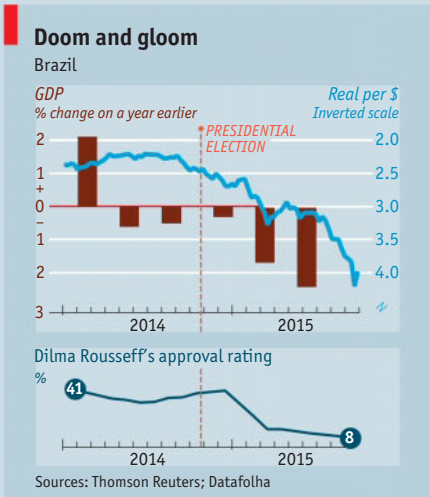
JUST as animals can smell fear in humans, financial markets pounce when they sniff government paralysis and division. So it was with Brazil in late September. In a fortnight the real plunged from 3.8 to the dollar to 4.2. Only when the Central Bank stepped in, offering dollars, was a semblance of calm restored. The immediate reason for the mayhem was the decision last month by Standard & Poor's, a rating agency, to downgrade Brazil's credit rating from investment grade to junk. That in turn was the inevitable result of the government's fiscal adjustment coming apart at the seams.

After Dilma Rousseff narrowly won a second term as Brazil's president a year ago, she signalled a change of economic course. Loose fiscal policy had pushed public debt to 60% of GDP in her first term. So she brought in Joaquim Levy, a fiscal hawk, as finance minister. He set a target of a primary surplus (ie, before interest payments) of 1.2% for this year (compared with a primary deficit of 0.6% in 2014) and of 2% next year.

Mr Levy said he could achieve this merely by trimming discretionary federal spending (on things like student and housing grants) and by abolishing some tax breaks. But he underestimated the severity of Brazil's recession—the economy is set to contract by 3% this year—and the consequent fall in tax revenues. Fatally, instead of announcing stiffer spending cuts, Mr Levy loosened his targets. The economic team made a complete mess of next year's budget, saying at first that it would involve a deficit and backtracking only after the downgrade.

It is an open secret in Brasília that Mr Levy wanted harsher measures. But the president declined to back him. She is at best a reluctant convert to austerity, and she lacks the authority to impose it. She has lost control over Congress, which must approve the cuts to legally mandated spending (on pensions and transfers, for example) which are now required. Moreover, she is also deeply unpopular (see chart), for two reasons. The first is a baroque corruption scandal in which politicians from her ruling Workers' Party (PT) and its allies are accused of skimming some $4 billion from contracts awarded by Petrobras, the state oil company. The second is that the recession is biting into living standards. Brazil is losing 100,000 formal jobs a month, notes Eduardo Giannetti, an opposition economist. He says that "people are very fearful for the future".

Rather than sorting out the economy, Ms Rousseff's priority has become survival, week by week. Later this month the Federal Audit Court is likely to reject last year's public accounts as irregular. And the electoral court is investigating whether her re-election campaign in 2014 benefited from corrupt donations. Either issue could trigger an attempt to impeach her. The opposition claims to have more than the simple majority of votes in the lower house of Congress required to start the process, though not the two-thirds needed for impeachment itself. So the president's task this week is to prevent the PT's main coalition partner, the centrist Party of the Brazilian Democratic Movement (PMDB), from jumping ship, by offering it bigger jobs in a slimmed-down cabinet.



Sources: Thomson Reuters; Datafolha

Ms Rousseff may yet be able to muddle through in this fashion until 2018. Both the PMDB and the opposition are hesitant about inheriting the economic mess if they push her out. But there is a real risk that in the coming months the president will find she can no longer govern. Only a credible fiscal squeeze can restore confidence in the currency and allow the Central Bank to cut interest rates, opening the way to recovery. But the PT is openly critical of Mr Levy's policies. And the centre-right opposition has hypocritically voted against austerity measures it believes in.

Ms Rousseff claims that impeachment would be a "coup". That is false. At the least, it would be a recognition that she won her second term on a false prospectus of continued welfare spending. The PT itself tried (and failed) to impeach Fernando Henrique Cardoso, a former president, months after he won a second term. Yet barring clear evidence of wrongdoing, impeachment would be deeply divisive.

Ms Rousseff also says that as a former urban guerrilla who survived torture, she would never bow to pressure and resign. But if the economic crisis worsens, she may find herself in an untenable position. One recent opinion poll by Ideia Inteligência found that of 20,000 telephone respondents, 64% said that the president would not complete her term. Of these, 60% thought she would resign. It is starting to look as if they may be right.

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formances in debates on the economy and foreign policy. Voters have noticed: after polling a clear third in August, the Liberals have surged to a near-tie. They now get 31% of the vote, between the ruling Conservatives' 32% and the NDP's 27%. To break this logjam, Mr Trudeau must persuade voters he is more than political royalty, and convince the 76% who say they want change that the Liberals are best-placed to deliver it. That means wrestling the NDP.

Mr Mulcair has inadvertently helped the Liberals. To fend off caricatures of his party as wild-eyed socialists, he vowed to balance the budget, allowing Mr Trudeau to propose stimulating the economy with borrowed cash. "Running modest deficits for three years when interest rates are low and the debt-to-GDP ratio is healthy [is] exactly what we need to do," he says. Similarly, after Mr Trudeau said he would not buy pricey American F-35 fighter jets, Mr Mulcair suggested including the F-35 in a competition. That put him on the same side as Mr Harper, whom NDP voters revile.

But the NDP also enjoys a structural edge. As the success of Britain's Scottish National Party shows, first-past-the-post systems help parties with geographically concentrated voters. And 57% of the NDP's MPs come from its stronghold in Quebec. The province is a minefield for the Liberals, who were damaged there by an advertising scandal in 2004. And Mr Trudeau's surname is an albatross in Quebec, which has never forgiven his father for reforming the constitution in 1982 without its assent.

With over two weeks left, there is plenty of time for any of the candidates to deliver a knockout blow. But Mr Trudeau, an amateur boxer, says he will eschew "that one big hit" in favour of "taking your time [and] imposing yourself with jabs". That may prove wise for a politician long on style and arguably short on substance. ■

Also in this section

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Afghanistan and a resurgent Taliban

Unhappy anniversary

KABUL

The fall of Kunduz to insurgents, however brief, is a blow to the government of Ashraf Ghani

THE capture of Kunduz by Taliban fighters in the small hours of September 28th, just a day before the first anniversary of Ashraf Ghani's presidential inauguration, was both a big propaganda victory for the insurgency and a nasty shock for Mr Ghani's troubled government. Although three days later Afghan security forces, with some assistance from American air strikes, launched what appeared to be a successful counter-offensive, embarrassing questions will still be asked about how a city of 300,000 fell to insurgents. Kunduz is a northern provincial capital with a thriving trade (legal and illegal) with Tajikistan. It is by far the most important city to have been taken by the Taliban since their eviction from power 14 years ago.

Since April Kunduz had been in a state of semi-siege. With only a few weeks of the fighting season left before the harsh winter kicks in, the Taliban's new leader, Mullah Akhtar Mansour, needed to display his grip on a divided movement still reeling from the announcement in July that the Taliban's founder, Mullah Omar, had been dead for two years. Some Taliban "spectacular" was therefore not hard to predict. Yet the government appeared to have done little either to reinforce Kunduz's defences or to carry out offensive operations against Taliban fighters who had long gathered in the countryside around it. It looks like a major failure of intelligence and military co-ordination.

The three-pronged Taliban attack on Kunduz—from the south, south-west and north-east—choked off the road to the airport. It also severed the southbound road from Kunduz to both Kabul, the capital, and the economic hub of Mazar-i-Sharif to the west, near the border with Uzbekistan. The attack seems to have been a concerted effort by militants from across Kunduz province, probably aided by insurgents from neighbouring Takhar and Baghlan provinces. An unusually large influx of foreign fighters has recently boosted the Taliban in the north.

The counter-attack came with Afghan security forces arriving by road and air from other provinces and from Kabul. It appears to have been swift and decisive, although parts of the city were still being contested hours after government ministers were claiming victory, boasting of having killed around 200 of the 500 militants behind the raid. The mopping up operation will be crucial as Taliban fighters may be hiding in the houses of sympathisers or in the districts outside, ready to re-emerge.

The Taliban's success in Kunduz, however fleeting, will strengthen the arguments of American military advisers who want to maintain a sizeable presence in the country. American trainers say that Afghan forces have steadily improved since they took over primary responsibility for Afghanistan's security from NATO troops in 2014. They fight well and courageously. But they still require help with aerial surveillance, logistics, close air support and medical evacuation. According to Pentagon figures about 4,700 Afghan soldiers and policemen were killed in combat and 7,800 wounded in the first seven months of the year, a sharp increase on a year earlier. Soldiers complain especially of poor equipment and a lack of air support.

The alarming rate of attrition is a reflection of overly restrictive rules of engagement laid down by Mr Obama's administration for what the 9,800 American forces remaining in Afghanistan may do. These forces make up the bulk of NATO's 13,200-strong "train, advise and assist" mission. But their commander, General John Campbell, has little leeway to help his Afghan allies. Air strikes of the kind that may have saved the day in Kunduz are permitted only under the direst circumstances, or when Western soldiers are in danger.

Critically, efforts to rebuild the Afghan air force by using robust Russian helicopter transports and gunships have foundered because Western sanctions on Russia have stalled the supply of spare parts. Small American MD-530 scout helicopters were rushed into service this year. But they have neither the range nor the firepower to be of much use, Afghan officers say. General Campbell is, reportedly, also attempting to persuade Mr Obama to abandon his ill-considered promise in 2014 that the last American troops would leave Afghanistan ▸▸

by the end of next year, a date that has no bearing on security in the country but which coincides with Mr Obama's departure from office. As for Mr Ghani, he is under further pressure to show results from his political gamble of improving relations with Pakistan, home to much of the Taliban's senior leadership. When the Taliban put the embryonic peace negotiations on indefinite hold after the revelation of Mullah Omar's death, it placed the onus on Mr Ghani to find another way of showing Afghans that he can keep them safe.

The situation is not helped by gridlock and squabbling over posts in a so-called unity government. No defence minister or attorney-general has yet been appointed. A quarter of the 34 provinces are without governors, and many of those appointed, while less corrupt than some of their predecessors, are politically inexperienced. The rising level of violence and a deteriorating economy have led people to leave the country in growing numbers. Afghans now make up the second-largest group of migrants and refugees arriving in Europe. Even if temporary, the fall of Kunduz has only added to the sense of insecurity. ■

An election looms in Myanmar

Divided we stand

MANDALAY

A campaign takes shape in a fragile young democracy

WHEN Myanmar last held a general election, in November 2010, Aung San Suu Kyi was under house arrest. Her National League for Democracy (NLD) boycotted that election, which the party close to the armed forces, the Union Solidarity and Development Party (USDP), won handily. Yet six days later Myanmar's best-known dissident was free. Much has changed. Five years ago people dared not discuss politics. Now tea shops hum with debate. Ms Suu Kyi and her party campaign openly. She smiles and waves from posters urging people to vote for the NLD, which this time is contesting the election that is due on November 8th.

The polls will see national and local parliaments elected. (Three months later, the bicameral national assembly will choose a president from among three candidates nominated by the upper house, the lower house and the armed forces.) With a quarter of parliamentary seats still reserved for the army, Ms Suu Kyi would need to win two-thirds of contested seats to secure a majority. That is extremely unlikely, not least because the parties of ethnic minorities will pick up seats in their regions. Yet the USDP may struggle to win more than 15% of contested seats. So even counting the seats reserved for the armed forces, it may fall far short of a majority. The election offers something most unusual for Myanmar: political uncertainty.

Just look for this symbol

The election is not about policy differences among the parties. The USDP stands for army-backed continuity. The ethnic parties stand for the interests of their own communities. And though the NLD has made some feints towards policy—taking stands in favour of sustainable development, good governance, reducing inequality and other platitudes—it is chiefly a vehicle for the cult of Ms Suu Kyi.

The cult is enforced with discipline. Among other things, NLD candidates are banned from talking to journalists. One candidate from the Mandalay region, in the middle of the country, conveys no policy message to voters and makes no personal appeals. "Don't think about anything," he tells them. "Just look for this symbol," he said, pointing to a badge on his lapel depicting the NLD's fighting peacock beneath a star against a red background, "and tick the box."

Breaking the ban, the candidate told this correspondent that if his party won a majority, its priority would be to change the constitution to allow Ms Suu Kyi to become president. The constitution currently bars anyone with a foreign spouse or children from the top job—a restriction many believe was written specifically for Ms Suu Kyi. But amending the constitution requires 75% of parliamentary votes—an impossibility for the NLD without some scarcely imaginable deal with the army-backed establishment.

In recent weeks Ms Suu Kyi has displayed an autocratic style, rejecting the parliamentary candidacies of several veteran activists in her party and expelling ten party members who took exception to her choice of candidates. Some say she fears rivals. Her defenders counter with the need for party unity and young, electable candidates. Either way, the fuss is unlikely to deter her fans among Myanmar's many urban voters.

In the countryside, however, things may not go so smoothly. NLD supporters complain that the USDP has been buying votes, including with money from development or disaster funds. And they accuse a virulently chauvinist Buddhist monk called Wirathu of telling rural voters that an NLD victory would turn Myanmar into a Muslim country. He denies that accusation, but says that he believes that the NLD "only stands for Muslim people and not for Myanmar citizens". In fact the NLD has no Muslim candidates and seems actively to have discouraged them. Ms Suu Kyi has been shamefully silent about Buddhist persecution of Muslim Rohingyas.

Beyond the party battles lie deeper concerns surrounding the election. Millions of potential voters—not just stateless Rohingyas but also Burmese labourers abroad, as well as people living in parts of Myanmar with ethnic insurgencies—may be disenfranchised. Nobody seems to know how electoral disputes will be resolved. A widespread perception that bodies overseeing the election favour the government could erode trust in the contest's outcome. These are daunting problems. And after the election will come months of parliamentary horse-trading and back-room deals, ensuring uncertainty long after all the votes have been cast. ■

The North Korean Workers' Party

Blast from the past

SEOUL

The Kim family party, an aberration in socialist history, turns 70

SPECULATION swirled a year ago when Kim Jong Un, North Korea's leader, had not been seen in public for over a month. He even skipped nationwide celebrations for the anniversary of the Workers' Party of Korea, through which his despotic family has ruled the North for three generations. Bets were cast over the cause of his disappearance; everything from gout to a coup was put forward. Yet Mr Kim returned to view, and on October 10th he is likely to be at the centre of the party's huge 70th anniversary celebrations. Outsiders are musing again—this time over the timing of rocket launches and nuclear tests.

Last month North Korea announced that its main nuclear-reprocessing facility at Yongbyon, shuttered in 2007 in an international deal that saw North Korea supplied with oil for power stations, was up

and running again; restarting Yongbyon is being viewed as a taunt to the outside world. Scientists then invited CNN, an American broadcaster, to a new satellite control centre, to convey that a satellite launch was "imminent". Outside experts suspect the North's satellite launches are a way for it to learn how to perfect long-range missiles—including, eventually, nuclear-tipped ones—even though the UN Security Council bans North Korea from using ballistic-missile technology.

Some kind of fireworks seems possible around the Workers' Party anniversary. The North is setting great store by the celebrations, as Mr Kim continues to strengthen his grip on a regime he took charge of following the death in 2011 of his father, Kim Jong Il. The anniversary's importance, says Andrei Lankov, a longtime North Korea watcher, reflects a return under Mr Kim to an emphasis on the ruling party as much as on the armed forces. Kim Jong Il ran the country chiefly through the army, attending just two party anniversaries during his 17-year rule.

Official history teaches that Kim Il Sung, Mr Kim's grandfather (whose jovial public demeanour Mr Kim attempts to emulate), founded Korea's first Marxist-Leninist party, on October 10th 1945. That is nonsense. A communist party was first established in 1925. After the Korean peninsula's division in 1945 the Soviets, who controlled the north, put Kim in charge of the party's northern branch office. It was from that position that he accrued power in what became the Workers' Party of Korea. It is now the only communist party boasting a hereditary dictatorship.

The party is a "super-government", says Mr Lankov, controlling not only state administration but all aspects of social life. (Two other parties exist, the Korean Social Democratic Party and the Chondoist Chongu Party, but they are united-front fictions.) DailyNK, a news source with informants in the North, recently reported crackdowns on black-market activity aimed at redirecting attention towards the jubilee—even though the decrepit condition of the official economy and low state pay mean that many North Koreans earn their living from informal trade. The regime has shown its largesse by promising to double monthly state salaries. Yet these are so meagre that for most the rise will buy just one or two extra bags of rice.

Rocket launches, however, remain a potent form of propaganda among a population drilled to hate, and guard against, wicked American imperialists. Sokeel Park of Liberty in North Korea, a group that works with defectors, maintains that even North Koreans with an understanding of the outside world or who in private curse the government for its rotten economic policies say they feel pride when rockets are fired. The most recent was a long-range Unha-3 launched in December 2012 which, for the first time, put a satellite into space. North Korea's pride and joy, it continues to orbit the Earth though without transmitting anything.

Japanese erotic art

Pillow fight

TOKYO

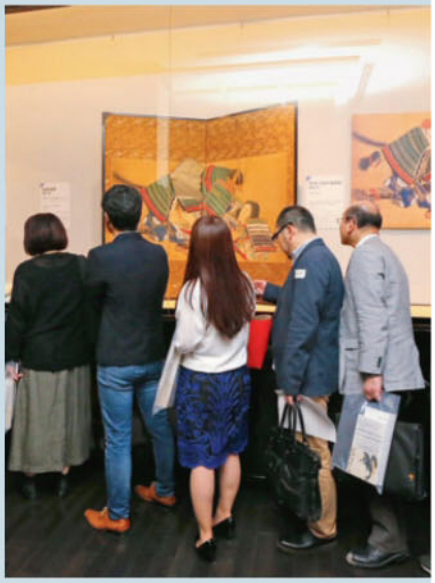
A collection of erotic masterpieces is at last shown in Japan

GIVEN Japan's vast and barely concealed sex industry, it seems odd that a clutch of old woodblock prints known as *shunga* still has the power to shock. *Shunga* means "spring pictures". They depict sometimes spectacular sexual contortions and come imbued with the power of taboo. For years they have largely been out of sight—until now.

The Eisei Bunko Museum in Tokyo is defying the taboo by showing 133 prints, on display until December 23rd. Many of the items in Japan's first full *shunga* exhibition have been borrowed from the British Museum, which ran its own successful show in 2013-14. Over 20 Japanese galleries turned down the exhibition.

Shunga were first hand-painted and were enjoyed exclusively by Japan's upper classes. Then from the 1700s techniques for mass-producing woodblock prints created thousands of new designs—and a new readership among the fast-growing urban classes. The prints mocked official values and social mores: one depicts a widow going to a Buddhist temple for solace only to be ravished by a priest. But their main purpose, says Timothy Clark, head of the Japanese section at the British Museum, was sensual. The prints showed sex as pleasurable and funny. They were consumed by men and women. But they could not survive the clash with uptight Victorians arriving in Japan in the late-19th century.

Japanese modernisers, eager to earn a seat in the club of rich Western nations, clamped down on *shunga*. A newfound prudishness led to many prints going up in flames or disappearing into private collections. Police confiscated the images. Post-office volunteers inked out offending parts. Now the Eisei Bunko Museum—run by an old samurai family that produced a recent prime minister, Morihiro Hosokawa, who wrote a preface to the catalogue—reckons it has the stuff to rehabilitate an art form that went on to influence Picasso and Rodin.



Outsized interest

To a Western eye, the absence of full nudity in *shunga* is curious—but then nudity in Japan was rarely considered erotic given widespread mixing of the sexes in bathhouses. What gave galleries cold feet is *shunga*'s graphic depiction of outsized genitals. After all, modern censors still insist on depictions of private parts and bottoms being pixilated, even for pornography.

Some fans of *shunga* say the exhibition is good news. Other museums and galleries can now pull prints out of dusty warehouses without worrying about a raid by the police. Japanese will at last be able to take pride in a neglected corner of their own rich cultural history, says Akiko Yano, an art historian at the School of Oriental and African studies in London. But, she says, not for first time they needed a prod from outside to get there.

In cities children's playgrounds feature miniature Unha-3 rockets blasting off into space. Mr Kim appears in state media touring new homes for rocket scientists. In 2013 he set up North Korea's answer to NASA. Daniel Pinkston, an expert on the North's space and nuclear programmes, says the rocket programme is now part of Mr Kim's political identity.

A year ago Western satellite imagery revealed an enlarged launch tower at Sohae in the north-west of the country, the site used in 2012. It suggested a rocket bigger than the Unha-3 was in the works. Yet snapshots from late September suggest no launch preparations are under way there, according to watchers at the Johns Hopkins School of Advanced International Studies in Washington, DC. North Korea notified international maritime and aviation authorities before its launch in 2012. It has yet to give a notification about a new launch. But then keeping the outside world guessing is what North Korea does best. ■

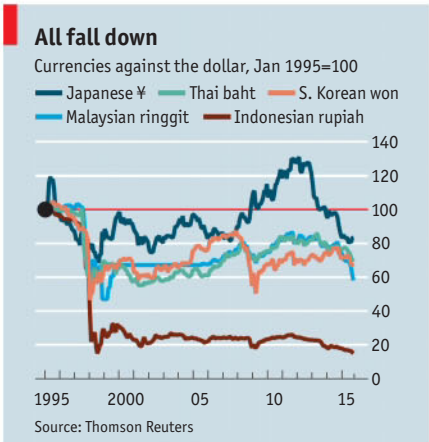
A slowdown among Asian economies

Running out of puff

SEOUL, SHANGHAI, SINGAPORE AND TOKYO

The region is not in crisis, but slower growth is hurting

THAT Asian economies are in much better shape than in 1997-98, when the region was caught up in an unprecedented financial crisis, ought to be reassuring. That officials feel the need to keep making this point is less so—and many investors fear the worst. From South Korea to Indonesia, exports are falling and economic growth is sputtering. Currencies have weakened (see chart), with the Indonesian rupiah and the Malaysian ringgit falling to their lowest levels against the dollar in nearly two decades. Meanwhile, the debts of companies and households are rising. Above all Asia's locomotive, China, is losing power. The question is how much worse things can get—and whether official assurances of resilience are to be believed.



Even though the slowdown in Asia is not yet something to panic about, it is sharper than was expected earlier this year. Japan faces (yet another) possible recession (see page 75). The Asian Development Bank says that, excluding rich Japan, growth for the region will be 5.8% this year, down from 6.2% last year and an average of nearly 8% over the previous decade. At the start of 2015 the bank was forecasting no change in growth.

It is reasonable to expect further deterioration. Exports have long driven Asian economies. In July they were nearly 8% lower in dollar terms than a year earlier. The slide has continued. South Korea is a bellwether for Asia's trade-focused economies. Its exports were 8.3% lower in September than a year earlier, the ninth consecutive monthly decline.

Weak local currencies mean that the export performances of Asian economies look better when measured by volume rather than dollar value. Even so, exports still look anaemic. ANZ, an Australian bank, talks of a "regional trade recession". Surveys of purchasing managers in factories in South Korea, Taiwan and Malaysia all report declining orders.

The simplest explanation for the slowdown is China. After three decades in which the country averaged double-digit growth, it is now growing by just over 7%—and even that lacklustre official figure looks overstated. What makes such a slowdown especially hard for economies in China's orbit is a change in the composition of Chinese growth.

Until now the Chinese economy has been powered by investment. But it is shifting towards a greater reliance on consumption. Investment stoked China's ravenous appetite for commodities, providing a big boost for resource-rich economies. By contrast, consumption is satisfied more through China's own production. Whereas sales of South Korean cosmetics and top-flight Japanese lavatories are enjoying a boom in China, their manufacturers' good fortune is far from enough to offset the struggles of Indonesian coal miners or Malaysian oil producers. Meanwhile, China's exporters are out-competing others in Asia. Its share of world exports rose from 11.6% in 2011 to 14.3% in June, says Andy Rothman of Matthews Asia, a money firm.

Regional economies also have homegrown reasons to worry. With few exceptions, they built up debt in recent years, taking advantage of the cheap financing made available by the rich world's extremely loose monetary policies. Asian debt, including household and corporate debt, rose from less than 150% of GDP in 2007 to around 200% by the end of last year. Debt rose fastest in China, but it also jumped in Hong Kong, Singapore, South Korea and Thailand.

This does not mean a replay of the crisis of 1997-98, in which debt played a crippling part. Officials highlight the differences between now and then. In the 1990s speculative money coursed into Asian economies. Countries had fixed exchange rates and small reserves of foreign currency, leaving them with few shock-absorbers when foreign investors pulled out. What began as a seemingly localised problem in Thailand spread rapidly.

Asian governments have since done much to strengthen these areas of vulnerability. They have amassed much bigger foreign-currency reserves, enough to cover several months of outflows. They have issued debt in their own currencies rather than be over-reliant, as before, on foreign-currency borrowing and flighty foreign investors. And today exchange rates are mostly flexible. These differences have allowed the pressures on the Indonesian and Malaysian currencies to play out over many months rather than in a sudden collapse. Fitch, a ratings agency, says that every country in Asia bar Mongolia and Sri Lanka will be in a stronger position to meet external liabilities in 2016 than it was in 1996.

Concerns have shifted, however. Commodities now occupy a much bigger share of export earnings around Asia, with Indonesia and Malaysia especially exposed. And while Asian governments have been more prudent in their borrowing, their companies have taken risks. Corporate borrowing has fuelled the rise in overall debt levels, even if not to the same extent as in the 1990s. Earlier this year Morgan Stanley found that 28% of the corporate debt of big listed companies was denominated in dollars, not local currency. In South Korea consumers are the worry, with household debt at around 160% of disposable income. Frederic Neumann of HSBC says that rising consumer debt has become "an inescapable necessity to keep the wheels turning" in South Korea.

Declining exports, plunging commodity prices and tighter funding for companies and consumers: it is an unwelcome combination and it is hobbling growth. Asia may well have the defences to stave off a crisis. But a protracted slowdown is no one's idea of a good time. ■

Banyan | A Pooh and a bear-hugger

Narendra Modi takes on Xi Jinping in a soft-power battle in America

"ANYTHING Xi can do, I can do better," seemed to be the mantra of Narendra Modi, India's prime minister, as he toured America in late September, hot on the heels of China's president, Xi Jinping. Both started on the west coast, seeking to charm the bosses of technology firms: both made speeches at the UN; and both met President Barack Obama. Above all, both sought to burnish their images with their own people at home and with Americans. Mr Modi perhaps wanted to show America how important a friend he can be; Mr Xi to prove that he is not yet an enemy. By those criteria, Mr Modi had the more successful American journey. But it also served as a reminder of how far India lags behind China in global clout.

Mr Modi's tour was tacked on to his attendance at the UN's summit on sustainable development. By contrast, Mr Xi's was much the grander affair. He was making his first formal state visit, with the full panoply of White House pomp. China's official press compared its importance to the famous goodwill tour made by Deng Xiaoping in 1979, the first visit by a Chinese leader after the two countries established diplomatic relations. The same press also tried hard to present a cuddly image of Mr Xi, after the bad publicity China has received under his rule for its bullying of neighbours and its worsening repression at home. The *People's Daily*, the Communist Party mouthpiece, produced a video of foreign students in China gushing about "Uncle Xi": "wise and resolute", "handsome", "super-charismatic", "a little bit cute", "Winnie the Pooh", etc, etc. It appeared not to be a joke.

Perhaps recalling the splash Deng made by donning a ten-gallon hat, Mr Xi went out of his way to embrace American culture. As is his habit on foreign trips, in a speech to business leaders he reeled off a reading list of notable national authors, adding a personal touch by recalling how he had downed a *mojito* at a bar in Cuba once frequented by Ernest Hemingway. Unusually, he even noted reports of a power struggle in the Politburo he heads, if only to deny them by reference to "House of Cards", an American television series about political skulduggery in Washington.

Mr Xi also said many of the things his hosts wanted to hear. He said he opposed Chinese cyber-theft from American firms. He respected freedom of navigation in the South China Sea and said China would not turn the artificial islands it has built there into military bases. He was committed to economic reform and rejected any further devaluation of the yuan. And he said China was determined to do its bit to combat climate change, on which he and Mr Obama issued a fresh joint statement reinforcing one they agreed on in Beijing a year ago. Meanwhile, on the eve of the state visit the two countries' defence ministries signed an agreement elaborating their procedures for avoiding accidental clashes between military aircraft.

Yet, for all these apparent signs of a flourishing relationship, Mr Xi failed to dispel American mistrust. After all, the rapport he and Mr Obama seemed to establish at their informal summit in California in 2013 led to no moderation in Chinese behaviour in the South China Sea or over cyber-security. Rather, in American eyes, China has grown more aggressive on both counts.

Of course, similar mistrust may be appropriate for Mr Modi's promises to turn India into a business-friendly, wired economy free of red tape. In America he, like Mr Xi, had to counter impressions that his early zeal for economic reform had run into the sands of vested interests and institutional inertia. And unlike the western-suited Mr Xi, with his glamorous wife in tow and banging on about his bookshelves stacked with Mark Twain and Tom Paine, Mr Modi is not a man you could share a chicken bucket and a beer with. He is decidedly un-American—favouring Indian clothes, teetotal and vegetarian. Worse, a decade ago, he was refused an American visa because of his government's alleged complicity in anti-Muslim riots in 2002 in Gujarat, the state he ruled. Moreover, recent American efforts to deepen relations with India have been constantly frustrated by wrangling over nitty-gritty irritations—over creating a commercial-liability regime that will allow American firms to get involved in India's nuclear-power industry, over visas for an army of Indian software engineers in Silicon Valley, and over finalising an investment treaty.

It's hard, being a soft power

Yet in the contest for popularity in America Mr Modi is beating Mr Xi hands down. He has three big advantages. First, he is a politician who has risen through a democratic system, with all the skills getting elected requires, including a willingness to flaunt emotions in public. He and Mr Obama greet each other with bear hugs.You will not see Mr Xi in such a clinch, or weeping as Mr Modi did when in a public forum he told Mark Zuckerberg, the founder of Facebook, about his mother. Second, Mr Modi enjoys the support of a large community of Indian-Americans, enthusiastic lobbyists for the old country. It is almost impossible to imagine Mr Xi working crowds of Chinese-Americans. It is not just that many of them have chosen not to live under communist rule; to show enthusiasm for the party would invite accusations of being a fifth columnist. And last, India is not China. The more China appears a threat to American interests, the more important India appears as a counterbalance. The bigger the worries about China's economy, the more hopes are invested in India's.

Mr Xi, however, is probably not too bothered about how he is perceived in America. Even when he boasts about his reading habits, the audience he really wants to impress sits at home. And on their television screens the Chinese will have seen their leader feted by the superpower and treated as an equal. For Mr Modi, an achievement of his visit was to win Mr Obama's endorsement for India's renewed demand for a permanent seat on a revamped UN Security Council. Remember that China already has one—and a veto on India's great-power aspirations. ■

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China and the United Nations

Xi and the blue helmets

BEIJING

After decades of ignoring the UN, China now embraces it—at least, beyond the country's backyard

AFTER a soporific summit with Barack Obama, President Xi Jinping's address to the United Nations General Assembly seemed unlikely to set pulses racing. By comparison, his speech on September 28th was a show-stopper. It revealed that China's relations with the UN have what its ties with America lack: a sense of direction and even engagement.

China used to disparage the UN. Even though it is one of five permanent members of the UN Security Council, it repeatedly abstained from votes, accounting, from 1990 to 1996, for two-thirds of all abstentions by the permanent members. Since then China's behaviour at the UN has changed profoundly. Over the past few years it has increasingly used the body as a vehicle for its international ambitions.

A simple measure of its new engagement is China's contribution to the UN budget. In 2015 it handed over $140m, or 5% of UN revenues, about the same as Britain or France. That compares with $67m (3%) in 2010. According to Zhang Guihong, director of the Centre for UN Studies at Fudan University in Shanghai, by 2018 China will be the UN's third-largest contributor.

China's new involvement focuses on three areas of UN activity: peacekeeping, climate negotiations and development. In the decade after 1971, when China dislodged Taiwan to take up a seat on the Security Council, it loftily ignored all peacekeeping votes (not even bothering to abstain). Maoist dogma held that peacekeeping was interference in the affairs of weaker states.

Mao Zedong must be turning in his mausoleum. Early this year China dispatched its first combat troops to a UN blue-helmet mission, in South Sudan. It has over 3,000 soldiers and policemen deployed with the UN, placing it ninth by size among countries providing peacekeepers. In his speech to the UN, Mr Xi said China would increase the number to 8,000 as part of a permanent UN peacekeeping force. He added that China would also give the African Union $100m for its own standby force.

In 2009 China was one of the countries that helped scupper a global treaty on climate change. This time, it has done more than most to push a treaty forward. Since the treaty is negotiated as part of the UN Framework Convention on Climate Change, this counts as a second example of cosying up to the UN.

At his meeting with Mr Obama, Mr Xi promised $3 billion to help the poorest countries cope with the costs of climate change. True, this money is being channelled through a Chinese institution called the South-South Co-operation Fund, rather than into the UN's own Green Climate Fund. But the offer is likely to push other donations towards that fund. Moreover, by endorsing the idea of a "low-carbon transformation" and by saying that monitoring and transparency in global environmental matters need to be improved, Mr Xi and Mr Obama boosted the efforts of those trying to negotiate a new treaty (see page 63).

As with the climate, so with the UN's development goals (targets for reducing the proportion of the world's population living in poverty, and other worthwhile aims). The UN laid out such targets for the period between 2000 and 2015. China ignored them. Yet on September 26th Mr Xi not only signed up to a new set of "sustainable development" goals, but also came armed with the cash to help meet them: $2 billion for the poorest countries to spend on health, education and economic development; $1 billion for a new China-UN "peace and development fund"; debt forgiveness for the poorest countries; $2m for the World Health Organisation; and so on.

China has long seen itself as a leader of the world's poor. The $6 billion-plus it is stumping up for UN climate and development programmes is by far the largest amount it has pumped into development abroad. By channelling much of it through the UN, it is using the international system to bolster its claim to global leadership.

Closer to home, though, it behaves rather differently. In July 2015 the Permanent Court of Arbitration, which rules on disputes arising from international treaties, began hearing a case brought by the Philippines over the nature of China's territorial claims in the South China Sea (the two are among several countries disputing islands and reefs in the area). China refused to take part in the arbitration and argued that the UN Convention on the Law of the Sea (UNCLOS, which it has signed) does not apply. The UN, it turns out, has its limitations.

China is willing to rearrange the institu- ▸▸

tional furniture in its back yard, too. Its new Asian Infrastructure Investment Bank, which is due to open its doors in December, is the clearest example. China is also trying to expand the Shanghai Co-operation Organisation, which began as a defence pact with Russia and Central Asian countries, to include more security and economic ties. India is likely to join next year. Iran may join, too.

China's foreign minister, Wang Yi, recently said his country "is a staunch supporter of the international order" and that "there is no reason why China should challenge [it]". Globally, that may be true, and Mr Xi is spending billions making good his support. But nearer home China is looking to remake that order. It remains to be seen how it manages the tension implicit in its new engagement with the UN. ■

Markets and the environment

Domesday scenario

BEIJING

An emissions-trading scheme could be the first of many green markets

A NATIONWIDE carbon-trading scheme, to be set up in 2017, is the most visible example of a broader trend in China towards using market mechanisms in environmental matters. Most countries promulgate regulations as their main green-policy tool, ie, banning some pollutants and restricting others. China does this, too. But a reform plan issued by the government on September 21st, laying out the basis of future policy, talks about developing "a market system which allows economic levers to play a greater role in environmental governance". If the plan is to be believed, China will go further than any other country in developing environmental market mechanisms.

The plan talks of selling "green" bonds, ie, those financing projects certified as environmentally sound. The government will improve financial guarantees for low-carbon projects. But those are becoming common. More fundamentally, the reform says China will separate the ownership of all natural resources from the rights to use them—and sell the usage rights at market.

This is much more radical. The idea is rooted in communist dogma, which says all natural resources—land, rivers, minerals and so on—are collectively owned. The reform plan begins by calling for a massive Domesday-like inventory of who owns what, whether central government, provincial governments or lower tiers. It then says, with utter insouciance, that "with the exception of natural resources which are ecologically important [eg, national parks], the ownership rights and use rights for all other natural resources can be separated". And, having separated them, the usage rights can be bought and sold, rented out, used as collateral or as the basis of loan guarantees, and so on.

The carbon-trading scheme suggests what this could mean in practice. It is like a market in energy-usage rights, with the carbon treated as part of the cost of using fossil fuels. A market in water rights will also be set up. Trials will be held in Gansu and Ningxia, two north-western provinces. The plan talks cryptically of setting up a "natural resource asset exchange".

The emissions-trading scheme also shows the practical problems of setting up such markets. To work, a carbon market needs an accurate assessment of how much carbon an economy is producing. But no one knows this. One recent study in *Nature*, a scientific journal, said Chinese carbon emissions in 2013 were 14% lower than had been thought; another, by America's Energy Information Administration, reckons coal use, and carbon emissions, were 14% higher. Provinces are meant to be cataloguing the carbon they emit. But as Bloomberg New Energy Finance, a firm of analysts, points out, only nine of the 31 provinces are doing so. The legal framework for carbon trading is not in place. And the experience of seven local pilot schemes has been mixed, at best, with provincial governments influencing prices.

It is too early to write off the reform plan's enormous ambition. Even if only a few projects can be made to work, China will have done more than most to show how markets can be used to improve the environment. Ma Jun of the Institute for Policy and the Environment in Beijing argues that, for all its difficulties, the plan is a big step. "We can't only have the government solve [environmental] problems," he says. "It needs market measures too." ■

Urban design

Darkness under the light

MANGSHI

The murky business of fancy streetlamps

CHINESE cities are known for their drab architecture and congested streets. Old structures have been torn down and new ones built in their place with such disregard for aesthetics that there is often little variation in building design or street layout. Some, however, attempt to create a distinctive hue, for example by requiring shops to use mock-traditional façades, or by erecting fancy streetlights with a local theme.

In Ruili, a slightly seedy town on the Burmese border, lamp posts are topped with golden peacocks (see picture). The nearby town of Mangshi prefers diving swallows, and Lincang, farther south, uses small metal aeroplanes. In Yangshuo, a sightseeing mecca in the southern province of Guangxi, the lights are shaped like bridal headdresses. In Emeishan, a city in the south-west, they resemble camellias and flower buds. And in Xi'an to the north, home to the famous terracotta warriors, electric lanterns hang from the mouths of dragons' heads.

But there is a dark side to this prettification. Chinese media have invented a term for it: "streetlamp corruption". Opportunities for graft are legion because lighting is rarely in investigators' sights. Plenty of money is often involved. An 8-kilometre (5-mile) avenue of lamps in the style of ancient imperial ones costs the county of Lingbi, in the central province of Anhui, 3m yuan ($500,000) a year to light. Last year an electricity bureau official in Hangzhou, in the east, was sentenced to 14 years in prison for embezzling 6m yuan in electricity bills. One of her colleagues got ten years for taking bribes to help particular street-light-makers win government bids.

Bureaucrats in other provinces have been charged with taking backhanders for maintaining lights or overcharging for their installation. Some now think it has all gone too far. An estimated 3m new or replacement streetlamps are installed each year, but the government's anti-corruption drive has made the luxury lighting business less lucrative. Now the push is for solar lighting and energy-saving bulbs instead. Graft involving these is reported too, but lower operating costs make for slimmer pickings.

Ruili struts its stuff

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Zimbabwe

Backs to the wall

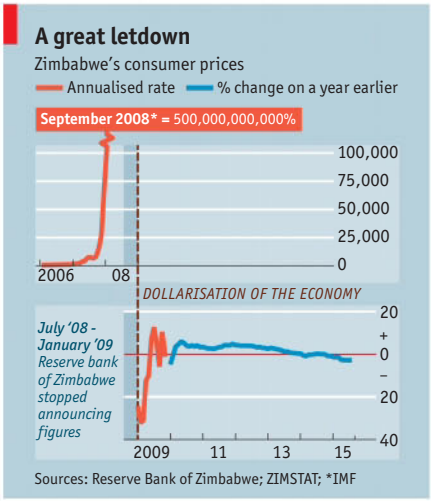
Drought and a weak rand may do more than a decade of sanctions to spur change

BEER-DRINKERS should have been clinking glasses in celebration when, at the start of the year, Zimbabwe's biggest brewer slashed the price of lager by 10%. Yet instead of chugging back their brews, Zimbabweans are being forced to sober up by an economic crisis that is hitting harder than most measures would suggest. Viewed through the bottom of a beer glass, the economy is as close to collapse as it has ever been.

Despite price cuts of more than 20% over the past year, sales of beer have fallen by 8%. Other symptoms of harmful deflation abound. The collection of value-added tax has slumped by 8%. Corporate tax receipts have fallen sharply, too, as have sales of tobacco, Zimbabwe's main export crop. The IMF reckons Zimbabwe's economy will grow by about 1.5% this year, but that seems optimistic, especially since a drought has halved its maize crop (and left 1.5m people needing food aid), workers have been laid off en masse and power cuts last 18 hours a day in parts of Harare.

Zimbabwe is no stranger to economic crisis. In 2008 it suffered a crippling bout of hyperinflation that at one point saw prices rising at a rate of 500 billion percent (see chart) before the government ditched its currency in favour of dollars. But the economic stress of this downturn is so dire that, for the first time in more than a decade, there is a real possibility of political change in the country. Robert Mugabe has ruled for 35 years and impoverished his people (see chart on next page). His big problem now is finding money to pay the policemen and soldiers who prop up his rule.

To be sure, Mr Mugabe is a master at outlasting his foes. The Movement for Democratic Change, an opposition party that ought to have won the rigged elections of 2000 (and several since), has splintered into bickering factions and poses no real threat. Its leader, Morgan Tsvangirai, fulminates impotently to his dwindling followers. Western countries have also been outsmarted. The European Union, which slapped targeted sanctions on Mr Mugabe and his inner circle, has quietly dropped most of them. Countries that had stopped giving development aid in protest against election-rigging and violence by Mr Mugabe's ruling Zanu-PF are now feeding hundreds of thousands of people.



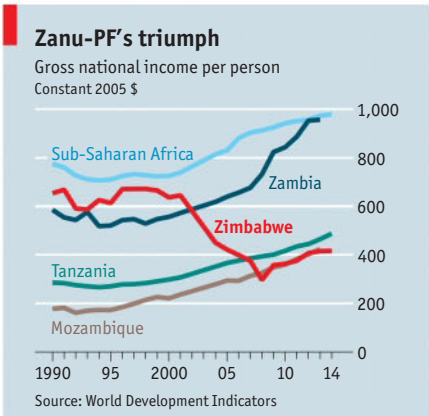
Sources: Reserve Bank of Zimbabwe; ZIMSTAT; *IMF

Yet unhappiness is mounting within the party, and its bigwigs have started to dismantle Mr Mugabe's economic policies, among them his plan to "indigenise" the economy by insisting that all companies must be majority-owned by black Zimbabweans. Some are even said to be trying to get him to announce his retirement.

Only the naive would count Mr Mugabe out of the game. His rule has lasted as long as it has because he has proved a master at setting potential successors against one another and ruthlessly cutting down the winner. Even now no clear heir has emerged. Emmerson Mnangagwa, the vice-president, appears to be in the lead, but his position is not secure. "There's a vipers' nest inside Zanu-PF fighting for power," says Piers Pigou of the International Crisis Group, a Brussels-based NGO.

Yet Mr Mugabe's grip may at last be weakening, along with his mind (he recently read out the same speech to parliament twice). And the stresses of this downturn are more severe than previous ones. Apart from the drought, the slowdown in South Africa is hurting. As many as 3m Zimbabweans work in South Africa, earning rands, which have fallen by 15% against the dollar this year. Officially remittances contributed some $837m to the economy last year, but many reckon that the real figure is double that and boost national output by more than 10%.

This crisis is particularly acute largely because the government's responses to each previous one have narrowed its options. In the 1990s, when faced with a debt crisis, Mr Mugabe simply defaulted. In the ▸▸



2000s, when he ran out of money, he simply printed more. When that sparked hyperinflation he ditched Zimbabwe's currency in favour of the dollar.

Now Zimbabwe has run out of road: it can neither borrow money nor print it. By surrendering its currency it has lost not just control over monetary policy but also an important shock-absorber. If a country wants to use the currency of another, it must earn the cash through exports, investment or remittances. Yet Zimbabwe's devastated economy imports far more than it exports, and poor rains will make matters worse. Every dollar used to pay for an imported bag of maize is one that cannot be used to pay for, say, a haircut, or the salaries of the soldiers and policemen who keep Zanu-PF in power.

This shortage of cash is forcing a brutal and deflationary internal devaluation on Zimbabwe's few remaining private companies. Consumer prices have fallen by about 3% over the past year, and companies have responded to falling revenues by sacking workers or cutting their pay. Econet Wireless, a mobile-phone network, has reduced salaries by 35%. TelOne, a rival, has trimmed wages by 15%.

Such pay cuts pose a challenge to a government that relies on hired muscle to stay in power. Although tax revenues are falling, it seems unwilling (or perhaps unable) to cut civil servants' pay, which consumes more than 80% of government spending. When earlier this year Patrick Chinamasa, the finance minister, tried to lower spending by suspending the payment of an annual 13th pay cheque to civil servants, he was swiftly overruled by Mr Mugabe.

Yet tough times are forcing the government to make hard and potentially dangerous choices. Earlier this year it delayed salary payments to employees of the Central Intelligence Organisation, Mr Mugabe's spy agency. The spooks' response hints at just how fragile his rule has become. "How does the president expect us to be loyal to him when we are being treated like this?," one reportedly complained to a journalist. "Most of us are no longer as dedicated to the job as we used to be." ■

South Africa

City stakes

JOHANNESBURG

The opposition takes on the ruling party in its heartland

THERE is precious little similarity between the liberal-leaning Democratic Alliance (DA), led by the smooth and managerial Mmusi Maimane, and its rival as standard-bearer of South Africa's opposition, the Economic Freedom Fighters (EFF), a fiery mob of radical leftists with the bombastic Julius Malema at its helm. At a recent rally celebrating "Heritage Day" in South Africa, Mr Maimane quoted Nelson Mandela and invoked non-racism; the EFF marked the day by calling for the Afrikaans section of South Africa's multi-tongued national anthem to be axed.

But these near-opposites, united only in hostility to the ruling party, could end up as coalition partners in some of South Africa's biggest cities if the African National Congress (ANC) continues its political slide. Such are the calculations that DA strategists are making as the party seeks to exploit the ANC's vulnerability in key urban areas ahead of next year's local elections. If they can push the ANC below 50%, the opposition parties could team up to take control of municipal governments. Even if coalition turns out to be as fractious as expected, it would be a humiliating blow to the ANC.

South Africans voted just last year in national elections, returning the ANC with a diminished majority. Since then, its polling numbers have fallen. The local government election, expected in or around next May, comes as the country reels from chronic electricity shortages, high unemployment, a rising violent-crime rate and dismal economic growth (GDP shrank by 1.3% in the last quarter). Meanwhile the ANC is caught up in factional fighting, with talk of a third term for Mr Zuma as party leader, while he works to secure a safe successor (possibly his ex-wife, Nkosazana Dlamini-Zuma) as the next president.

In May the DA chose its first black leader, the 35-year-old Mr Maimane, a sign of the party's hopes of reaching voters who view the DA as "too white". Mr Maimane is focusing his efforts on the densely populated black townships around Johannesburg and Pretoria. Disgruntled ANC supporters may not be willing to switch to the opposition; but they may choose not to vote at all.

The DA has plenty to prove. The only big city now under its control is Cape Town, though its record there, especially on power and water provision, is a good advertisement. The best prize would be Johannesburg, the economic hub of the country. While the DA has no chance of winning control of the city, it hopes, with the EFF's help, to erode the ANC's majority enough to make a coalition possible. It has an even better chance in the capital, Pretoria, where it might win outright. The DA could also win the area around Port Elizabeth, known as Nelson Mandela Bay. Last week the DA filed corruption complaints against Danny Jordaan, the former boss of

The DA's rising blue tide

South Africa's blighted 2010 football World Cup, who was recently appointed mayor of Nelson Mandela Bay to shore up the ANC's support there.

The ANC is clearly in trouble in Johannesburg, where its support dropped to a bare majority of 54% in the national elections last year. The DA has generally benefited from the rise of Mr Malema's EFF, which in last year's national polls took votes away from the ANC. But the new party, which Mr Malema founded in 2013 when he left the ANC, is also a potential threat, having sucked attention away from the DA in the past year with a raucous campaign against the government's lavish spending on Mr Zuma's home. The EFF is untested in local elections and lacks organisation; so next year is the best chance for a breakthrough that the DA has ever had. ■

Kenya

Find the money

NAIROBI

The mystery of Nairobi's property boom

WHAT Kenyan homebuyers want, at least according to Eddah Musyimi, a property-seller, is a picket fence, friendly neighbours and safe streets for their children to play in. She works at Bahati Ridge, a development near Thika, a town around 50km (30 miles) north-east of Nairobi. For 13m shillings (about $125,000), well-off Kenyans can buy a nice-looking semi-detached house with about a quarter of an acre of garden. The mock Tudor facades and herringbone paving hint at middle England, but in other ways the area would blend easily into Houston or Tampa. With most of its residents commuting to Nairobi along a new motorway, it is one of the Kenyan capital's first exurbs.

Nairobi has long been a city of colonial villas for the wealthy and privileged, and teeming slums for almost everyone else. But a building boom is starting to change that. At the edges of the city, and in towns nearby, new suburbs are fast replacing coffee plantations. Towards the centre ageing bungalows give way to towering apartment blocks. Property prices have increased almost fourfold since the early 2000s, according to Hass Consult, a local agency. It certainly feels like a frenzy. Property brochures litter shopping malls; empty plots of land sport signs announcing that they are not for sale, to deter con artists who try to sell land they do not own. And yet behind it is a mystery: nobody is quite sure where the money is coming from.

One thing that is not fuelling the activity is a mortgage boom. According to estate agents, just 22,000 home loans exist in the whole of Kenya, and half of these are reckoned to be to bank employees at preferential rates. Loans at market prices are punishingly expensive, carrying interest rates around 15% or higher. Rents, by contrast, are cheap: mortgage repayments can be two to three times as dear. As a result, almost nobody gets a mortgage to buy a house to live in.

Instead, says Sakina Hassanali of Hass Consult, the vast majority of properties are being sold to investors, who pay in cash. They are not interested in rental yield, she says—they just want a relatively safe store of money in a country that has high inflation and an underwhelming stockmarket. Extended families will often club their savings together to buy a property as a sort of family trust fund. It helps that owning land is seen as a signifier of wealth in Kenya. "If you own land, in the worst-case scenario, you can still grow crops, it comes from that," says one young Kenyan financier. He explains how, despite his misgivings, he was still persuaded by his family to invest in some property outside Nairobi.

The source of this glut of cash is unclear. Some comes from savings; some from emigrants who repatriate earnings from abroad. But there are hints of less salubrious sources. The spoils of corruption are rarely kept in foreign bank accounts these days. Instead, they are invested at home. And just as Russians are blamed for inflating house prices in London and New York, in Kenya some blame rich Somalis.

Many well-off Kenyans worry that a crash is coming. But since the bubble is not puffed up by borrowing, that seems unlikely. The commercial-property market may deflate a little, thinks Edward Burbidge, an investment banker based in Nairobi: shopping malls are being built in places where the population density is far too low to support them. The challenge for investors is to find tenants to fill all the new houses. They had better hope that Kenyans really do want to live the suburban dream, picket fence and all. ■

Swaziland

Elephantine delusions

SIKHUPE

Africa's last absolute monarch has some wild ambitions for his country

A GLITZY new airport greets visitors to Swaziland, a nation of 1.3m people between South Africa and Mozambique. It is eerily empty. So are the 200 parking spots outside. The airport can take two jumbo jets at a time and process 300 passengers an hour. Actual peak-time arrivals are half that, all of them on Swaziland Airlink's three daily flights from Johannesburg. No other airline has signed up since March last year, when King Mswathi III cut the ribbon and named the airport after himself.

Building a white elephant or two is normal for autocracies. Swaziland, however, is going for a herd. Construction has started on a sprawling convention centre, paired with a luxury 500-room hotel. Along with the airport, they are part of the king's Millennium Project, a plan for turning Swaziland into "a first-world nation" by 2022. Next on the list are a theme park, a trade centre, a sporting complex and an amusement park.

The country's scarce funds could surely be better spent. Swaziland has the world's highest HIV rate; six in ten of its people live in poverty. On August 29th dozens of young women crammed in the back of a lorry died when it collided with another vehicle; they were on the way to an annual ceremony at the king's residence during which he picks a new bride from among thousands of topless dancers. But the government, which is appointed by the king, valiantly defends him. The airport is destined to be a hub, it says, connecting long-haul flights from Europe and Asia to shorter routes in the region. Unfortunately Johannesburg's airport already does that job perfectly well. Many Swazilanders drive there, as the new Swazi one is in the wilderness 80km (50 miles) from Manzini, the country's commercial centre. The king's latest fancy is a seaport. A 70-km canal through neighbouring Mozambique would connect his landlocked country to the Indian Ocean. The port will handle four large vessels at a time and will be better than the nearest ports at Durban and Maputo, which are too shallow, claim Swazi officials. Mozambique has yet to agree.

Saudi Arabia

King Salman's year of trouble

CAIRO

When it rains, even in a desert kingdom, it pours

THE 79-year-old king of Saudi Arabia, Salman bin Abdul Aziz Al Saud, has kept a brave face since succeeding his half-brother in January. Yet while any newly crowned king may suffer ill fortune, many of Salman's woes are either chronic or, as whispers in the kingdom increasingly suggest, products of a failing system, compounded by a lack of transparency and shortcomings in leadership.

The collapse on September 11th of a construction crane at the Great Mosque in Mecca, which left more than 100 pilgrims dead, may have been a freak accident. But the stampede on September 24th, resulting in an official death toll of 769 pilgrims, was not; it follows a long string of mass fatalities during the haj pilgrimage that have defied Saudi efforts to make Islam's holy places safe. This is embarrassing for King Salman, one of whose titles is Custodian of the Two Holy Mosques. Yet Saudi newspapers dutifully published a royal telegram dispatched to Crown Prince Muhammad bin Nayef in which the king praised his nephew, who chairs the committee responsible for organising the pilgrimage, for its "successful" outcome.

The kingdom has been as tone-deaf to questions about the humanitarian toll of its war in Yemen. By the UN's count at least 4,500 Yemenis have died, more than half of them civilians, since the launch in March of a Saudi-led coalition's bombing campaign intended to roll back an insurgency led by a quasi-Shia group. At least 130 guests at a wedding died in an aerial bombing on September 28th, to mention just one incident. Saudi military spokesmen have so far denied responsibility.

Yemen is a sensitive subject because the coalition's commander, Prince Muhammad bin Salman, the Saudi defence minister, is the king's favourite son. The Saudi public has so far broadly backed the intervention in Yemen. But as Saudi-led forces, having made gains at first in the flatter parts of Yemen, enter far harder mountainous terrain in the more populous parts of the chronically rebellious country, both casualties and public doubts will rise.

The king's son is already a target for criticism, as shown by the recent appearance on the internet of two letters purporting to be from one of his cousins. "How can we accept that our fate is hostage to the whims of adolescents and the yearnings of impatient men?" asks the anonymous author, who proposes a gathering of senior princes to choose more qualified leaders. Muhammad bin Sultan is only 30.

A sinking sovereign?

Many Saudis debate the authenticity of the letters, which were aired on a Twitter account associated with dissident exiles. The author declares himself "a grandson of Abdul Aziz ibn Saud", the founding king who died in 1953, so he could be any one of the extraordinarily fecund Al Saud family's several hundred third-generation princes. The letters propose not reform, but a return to more conservative ways, including a reinforcement of the alliance with the arch-traditional Wahhabist clergy.

But increasingly Saudis question this alliance. The gory rise of Islamic State, whose ideology borrows from Wahhabism, has brought home the dangers of too literal an adherence to fiery doctrine. While Western countries protest against the kingdom's harsh interpretation of *sharia* in cases such as the recent sentencing to beheading and crucifixion of a Shia youth, Saudis themselves express growing qualms. Following recent bombings of Shia mosques in the kingdom, the incident arousing most traffic on social media was a clip showing the murder of a Saudi army officer by two of his own cousins. Condemning him as an apostate for working as a "protector of the Crusaders"—a reference to the kingdom's alliance with America—they gleefully slaughter him.

Yet if fears of such lurking ills worry Saudis, so does the kingdom's economy. Last year's oil-price fall has hit the government hard, though it can draw on ample foreign reserves, which are so far down 10% from last year's peak of $737 billion. Its debt is negligible, so it can easily issue more. What has hurt ordinary Saudis, who are avid punters, is the local stock index. It has sunk by 30% over the past year. Even the opening of the market to foreign investors in June failed to stem the decline. ■

Israel and the Palestinians

Abbas's damp squib

RAMALLAH

A display of political impotence

THE promised bombshell turned out to be a dud. Mahmoud Abbas, the Palestinian president, had promised for months that his speech on September 30th at the UN would shake up the decades-old conflict with Israel. Saeb Erekat, his occasionally hyperbolic chief negotiator, said that Mr Abbas would annul the Oslo Accords, the treaty that gave the Palestinians limited self-rule. Others hinted that he would dissolve the Palestinian Authority (PA).

In the end, Mr Abbas did neither. He declared himself no longer bound by past agreements with Israel, saying that it had violated its commitments by, among other things, continuing to build illegal settlements in the West Bank. "Israel must assume all of its responsibilities as an occupying power," he said. But he stopped short of announcing any concrete changes. Indeed, he said that the PA would "continue its efforts", hardly a sign that he was turning out the lights.

The Palestinian leadership, caught between a frustrated public and reality on the ground, has a habit of making promises it cannot keep. Before Mr Abbas, there was Jibril Rajoub, a former security chief who now heads the Palestinian football association. For months he threatened to call a vote at FIFA's annual congress on suspending Israel from the world football body. He backed down at the last minute, even sharing an enthusiastic hug with his Israeli counterpart, to widespread ridicule back home. (One cartoonist anticipated Mr Abbas's "bombshell" earlier this month with an image of the president breaking wind.)

A recent poll found that 78% of Palestinians think their chances of getting a state in the next five years are "slim to non-existent". They are frustrated with the growth of Israeli settlements and a persistent sense of insecurity, particularly after a firebombing that killed an 18-month-old baby and his parents in July. Even the limited economic progress achieved during the Oslo era has stalled: the World Bank said this week that Palestinian GDP had contracted for the third year running.

Yet Mr Abbas and his ageing advisers have few options. Dissolving the PA would put tens of thousands of civil servants out of work. Halting security co-operation with Israel would mean more violence in the West Bank. And they have abandoned hope that Israel's staunchest ally will apply pressure: Barack Obama did not even mention the conflict in his own speech. ■

The Economist

SPECIAL REPORT
THE WORLD ECONOMY
October 3rd 2015

The sticky superpower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The sticky superpower

America remains the world's economic hegemon even as its share of the global economy has fallen and its politics have turned inwards. That is an unstable combination, says Patrick Foulis

IN JUNE THIS year Jack Ma, the founder of Alibaba, a giant Chinese e-commerce firm, addressed the Economic Club of New York, whose members include many Manhattan luminaries and Wall Street chiefs. Mr Ma's message was that his company exists for the long-term good of society, a far cry from the creed of shareholder value followed by many in the room. He pledged to help America's struggling small firms export to China's 630m internet users, who between them now spend more online than Americans do. The venue for the event was the Waldorf Astoria hotel, which, when it opened in 1931, in the midst of the Depression, was hailed by President Herbert Hoover as "an exhibition of confidence and courage to the whole nation". Today the Waldorf is owned by a Chinese insurance firm run by Deng Xiaoping's grandson-in-law. The whole event seemed to symbolise a change in the world's economic order.

Yet as a parable of American decline that would be too neat. The lesson from Mr Ma's big day in the Big Apple is more subtle: that America remains the world's indispensable economy, dominating some of the brainiest and most complex parts of human endeavour. Alibaba is listed in New York, not on Shanghai's bourse, whose gyrations this year have alienated investors. Four of the six banks that underwrote Alibaba's flotation were American. Alibaba makes only 9% of its sales outside China (and has just hired a former Goldman Sachs executive to increase that share). The Waldorf is run by an American firm, Hilton, that does well out of owning intellectual-property rights worldwide. Days after his speech Mr Ma spent $23m on a mansion in New York state's Adirondack mountains. No doubt he will enjoy the trout streams, but like many Chinese tycoons he may also want a bolthole in a country that embraces the rule of law. Two months later China devalued its currency, causing panic about its economy.

This special report will examine the paradox illustrated by Mr Ma's speech. It will argue that America is a sticky economic superpower whose capacity to influence the world economy will linger and even strengthen in some respects, even though its economic weight in the world is declining. For some, this is a welcome prospect. Hillary Clinton, a front-runner for the job of America's next president, wrote last year: "For anyone, anywhere, who wonders whether the United States still has what it takes to lead…for me the answer is a resounding 'yes'…everything that I have done and seen has convinced me that America remains the indispensable nation." But if handled badly, the growing gap between America's economic weight and its power will cause frustration and instability.

Power is the capacity to compel another to do what they otherwise ▸▸

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A list of sources is at **Economist.com/specialreports**

An audio interview with the author is at **Economist.com/audiovideo/specialreports**

would not. It can be exercised through coercion, by setting rules or by engendering expectations and loyalties. American power is sometimes defined so broadly that it includes both the flight decks of the *USS Abraham Lincoln* and the legs of Taylor Swift. This report will focus on a narrower point: how America's grip on the global economy helps, enriches, organises, bosses and annoys the rest of the world . This kind of power is often wielded inadvertently: for example, America has no desire to run India, yet India's economy is affected by the Federal Reserve's monetary policy; and two of the subcontinent's leading industries, technology and pharmaceuticals, are subject to American rules that are a de facto world standard.

American economic dominance has never been absolute. Between 1946 and 1991 the Soviet Union's empire of queues and rust aspired to be a rival model. From the 1970s onwards Europe pursued closer integration partly as a counterweight to America; the idea of a single European currency gained momentum as Europeans grumbled about the ascendancy of the dollar. Japan appeared to pose a threat in the 1980s and in its pomp tried to persuade Asia to join a yen zone. Even when the so-called Washington Consensus of American-inspired liberal economic policies was at its peak in the 1990s, many countries, most notably China, ignored it. But until recently one thing was clear: America had the biggest weight of any country in global GDP and trade.

In the first change in the world economic order since 1920-45, when America overtook Britain, that dominance is now being eroded. As a share of world GDP, America and China (including Hong Kong) are neck and neck at 16% and 17% respectively, measured at purchasing-power parity. At market exchange rates a fair gap remains, with America at 23% and China at 14%. By a composite measure of raw clout—share of world GDP, trade and cumulative net foreign investment—China has probably overtaken America already, according to Arvind Subramanian, an economist (see chart). Even if China's economy grows more slowly from now on, at 5-6% a year, its strength on such measures will increase.

The experience of the 20th century suggests that such a transition can happen fast. In 1907 America lacked a central bank and suffered a banking collapse, but by the 1920s the dollar rivalled the pound sterling as the world's most widely used and trusted currency. If the past is a guide, China could surpass America in the blink of an eye, giving it the heft to issue the world's reserve currency and set the rules of trade and finance. A plurality of people polled by the Pew Research Centre around the world believe that China will become the world's leading economic power. Those aged under 30 are most likely to believe they will live in a Chinese epoch.

But any reordering of the world economy's architecture will not be as fast or decisive as it was last time. For one thing, the contest is more balanced. America is far stronger than Britain was at its moment of precipitous decline, and China is weaker today than America was when it took off. For all its efforts to promote its currency and its institutions, the Middle Kingdom is a middle-income country with immature financial markets and without the rule of law. The absence of democracy, too, may be a serious drawback.

Today's world also relies on a vastly bigger edifice of trade and financial contracts that require continuity. Trade levels and the stock of foreign assets and liabilities are five to ten times higher than they were in the 1970s and far larger than at their previous peak just before the first world war. The speed and complexity of capital flows surpass anything the world has ever seen before. Britain and America were allies, which made the transfer of power orderly, if often humiliating for the declining power. Having squashed Britain's global pretensions at the Bretton Woods conference on the international monetary and financial order in 1944, America helped cushion its financial collapse in 1945-49. China and America are not allies. The greater complexity and risk involved in remaking the global order today create a powerful incentive for current incumbents to keep things as they are.

Until recently one thing was clear: America had the biggest weight of any country in global GDP and trade

Last, the nature of economic activity has changed, shifting towards intangible, globalised services (such as cloud computing and computerised financial trading) in a way that may allow America to exert dominance by remote control.

Economists, Tea-Partiers, trade unionists and Bruce Springsteen have chronicled America's slide on traditional measures of economic and institutional prowess. Judged by its share of world steel production, manufacturing, merchandise trade, transport and commodities production and consumption, the country is going to the dogs (see chart, next page). The number of countries for which America is the biggest export market has dropped from 44 in 1994 to 32 now. Over the same period the equivalent figure for China has risen from two to 43.

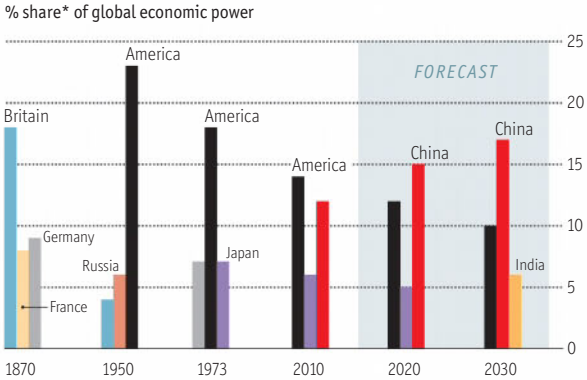
America's lead in other areas, such as research-and-development spending, technology equipment and consumer brands, is no longer as comfortable as it was. Many of the world's most valuable firms are still American, but this overstates their clout abroad: their share of the stock of international corporate investment has fallen from 39% in 1999 to 24%.

America still shines in a number of fields. It has 15 of the world's 20 leading universities. Its Food and Drug Administration is the global benchmark for the efficacy of a new medicine. A patent registered in New York is far more credible than one booked in Shanghai. And Hollywood's domination of the world's box offices is as eternal as a Californian film star's youth.

What is less widely acknowledged is that in some domains America's clout is increasing. The country has demonstrated an astonishing capacity to dominate each new generation of technology. It is now presiding over a new era based on the cloud, e-commerce, social media and the sharing economy. These products go global faster and penetrate more deeply into people's

The ebbs and flows of power

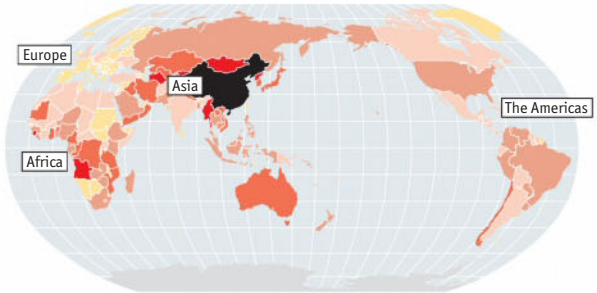
% share* of global economic power



*Weighted by share of world GDP, trade and net capital exports
Source: "Eclipse: Living in the Shadow of China's Economic Dominance", by Arvind Subramanian, 2011

Merchandise trade with China

As % of countries' total trade, 2014 0-5 5-10 10-20 20-40 Over 40



Sources: IMF; *The Economist*

minds and jobs than anything Silicon Valley has invented before, affecting everyone from cabbies to philanderers to despots.

Facebook and Google do a majority of their business abroad, and that share is rising. When Microsoft was at the height of its powers in 2000, it made less than a third of its sales overseas. American firms now host 61% of the world's social-media users, undertake 91% of its searches and invented the operating systems of 99% of its smartphone users. China's internet firms, including Mr Ma's, are both protected and trapped behind China's "Great Firewall".

America's dominance of the commanding heights of global finance and the world monetary system has risen. The global market share of Wall Street investment banks has increased to 50% as European firms have shrunk and Asian aspirants have trodden water. American fund managers run 55% of the world's assets under management, up from 44% a decade ago, reflecting the growth of shadow banking and new investment vehicles such as exchange-traded funds. Global capital flows, larger than at any time in history, move in rhythm with the VIX, a measure of volatility on America's stockmarkets.

Power through neglect

One of the oddities of globalisation is that although America's trade footprint has shrunk, its monetary footprint has not. The Federal Reserve is the reluctant master of this system, its position cemented by the policies put in place to fight the 2007-08 financial crisis. When the Fed changes course, trillions of dollars follow it around the world. America's indifference towards the IMF and World Bank, institutions it created to govern the system and over which it has vetoes, reflects power through neglect.

The position of the dollar, widely seen as a pillar of soft power, has strengthened. Foreign demand for dollars allows America's government to borrow more cheaply that it otherwise could, and the country earns seigniorage from issuing bank notes around the world. America's firms can trade abroad with less currency risk, and its people can spend more than they save with greater impunity than anyone else. Even when a global crisis starts in America it is the safe haven to which investors rush, and foreigners accumulate dollars as a safety buffer.

Since the attacks of September 11th 2001, America has emphatically asserted control over the dollar payment system at the heart of global trade and finance. Hostile states, companies or people can be cut off from it, as Iran, Burmese tycoons, Russian politicians and FIFA's football buffoons have found to their cost. The threat of this sanction has given America an enhanced extraterritorial reach.

Finance and technology are already a battleground for sovereignty, as Europe's pursuit of Google through antitrust cases has shown. So for America to lay a claim to running the world economy's central nervous system even though it is no longer its dominant economic power would be the ultimate expression of its exceptionalism. The country would need to show an extraordinarily deft touch. It would have to act, and to be seen as acting, in the collective interest.

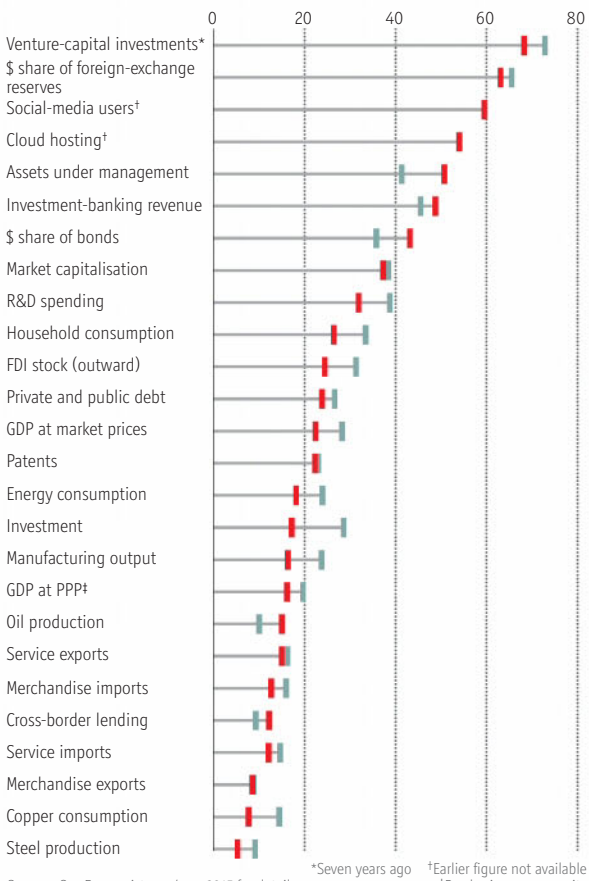
America's political system has shown itself capable of great leadership in the past, not least during and after the second world war. Today it is falling short of these ideals. The global financial crisis proved that America always does the right thing in the end, but only after exhausting all the alternatives. The Federal Reserve provided liquidity to the world, and with a gun to its head Congress stumped up the cash to rescue American financial firms. But since then America's political system has flirted with sovereign default, refused to reform or fund the IMF, obstructed China's efforts to set up its own international institutions, imposed dramatic fines on foreign banks and excluded a growing list of foreigners from the dollar system.

The idea that America's political system does not feel obliged to meet what self-interested foreigners present as its global economic responsibilities is nothing new. When informed about a speculative attack against Italy's currency in 1972, Richard Nixon snapped: "I don't give a shit about the lira." But the country's current indifference may be more than a temporary lull. America's middle class is unhappy with globalisation and its politics are deeply polarised.

From mighty to mingy

America's share of global total, %

Now or latest 10 years earlier



*Seven years ago †Earlier figure not available ‡Purchasing-power parity

Sources: See Economist.com/econ2015 for details

If America failed to live up to expectations, what would that mean for the rest of the world? For the moment it is easy for America's policymakers and politicians to be complacent: China's aura of competence has been damaged by its recent economic troubles, and America has the world's perkiest economy, admittedly in a sluggish field. But it is important to be clear-headed about the long-term choices. America cannot expect effortlessly to dominate global finance and technology even as its share of world trade and GDP declines and it becomes ever more inward-looking.

This special report will argue that the present trajectory is bound to cause a host of problems. The world's monetary system will become more prone to crises, and America will not be able to isolate itself from their potential costs. Other countries, led by China, will create their own defences, balkanising the rules of technology, trade and finance. The challenge is to create an architecture that can cope with America's status as a sticky superpower. The next article will explain why its internal politics have made this ever more difficult. ■

American politics

Neither leading nor ceding

America's bitter internal politics have made economic diplomacy harder

AFTER THE HORRORS of the second world war most Americans just wanted to "go to the movies and drink Coke", observed Averell Harriman, who later became secretary of commerce. Instead their government built a world order centred around America. Its economic achievements were exemplified by the Marshall Plan to help rebuild war-ravaged Europe—"the most unsordid act in history", according to Winston Churchill. It revived the world economy and made America richer, too. By 1950 Coca-Cola was selling 50m bottles a day in Europe.

This was a golden era of American foreign-policymaking. What did it take to make the country act in such enlightened self-interest? According to "The Wise Men", a history by Walter Isaacson and Evan Thomas published in 1986, the magic ingredients included a rarefied East Coast foreign-policy elite who could easily glide between Wall Street and high office; responsible media; a thoughtful Congress capable of bipartisanship; a public that could be united against a common ideological enemy with which America had few economic links; and a president, Harry Truman, who was a war hero.

None of those conditions applies today. Viewed from outside, America's economic diplomacy since the financial crisis of 2007-08 has become cranky. Earlier this year America tried to discourage its allies from supporting China's new development bank, the Asian Infrastructure Investment Bank (AIIB), only to find that many of them joined the institution anyway. It was a diplomatic fiasco. Old-timers complain that links with Chinese policymakers, once carefully cultivated, have atrophied. A row with China over cyber-security is brewing.

Domestic constraints on economic policymaking have got worse. Political confrontations over the budget have pushed the country close to default, irritating the foreigners who own 60% of the Treasury market. Since 2010 Congress has refused to recapitalise or pass reforms of the IMF, keeping the world waiting.

Foreign banks have been subjected to fines and litigation costs totalling about $100 billion, some richly deserved, some little more than shakedowns by local officials looking for headlines and cash. Some banks from the emerging world and a few countries have been all but excluded from the dollar payments system by money-laundering rules whose cost, imprecision and extraterritorial reach are pushing the global banking system away from America. The Federal Reserve's extension of liquidity to foreign banks is under attack from the left and from the Tea Party, and at least a third of Congress wants to review or limit the Fed's powers. In July Congress stopped Exim Bank, a government body that finances exports, from writing new loans.

The grandest foreign-policy initiative has been the Trans-Pacific Partnership (TPP), a proposed trade deal between Asia-Pacific and America. (Another deal with Europe is coming up behind.) In June Congress agreed to hold a simple yes or no vote on any TPP deal that Mr Obama strikes. But TPP is a far cry from the trade pacts of the past. It excludes China and India. The hope is that both countries will eventually ask to join, but they could equally go into a huff and push their own trade pacts. TPP negotiations have dragged on and Congress may now be voting on it during next year, in the midst of a presidential election. Hillary Clinton, the Democratic front-runner, has declined to endorse the pact, even though she had supported it in broad outline in the past. Half the field of Republican candidates are hostile to TPP.

The campaign will also see tensions with China flare. Marco Rubio, a Republican contender, has called on America to stop appeasing China. Donald Trump, another Republican hopeful, said ahead of a visit to America by Xi Jinping, China's leader, that instead of a state banquet he would offer him a Big Mac.

One view is that all this is just a temporary blip. America has always harboured a strain of populism that dislikes elites and foreign engagements, sometimes called the Jacksonian tradition after Andrew Jackson, who served as president from 1829 to 1837. America declined to participate in the Genoa conference in 1922 that aimed to restore Europe's economy. In 1948-49 Congress vetoed American membership of a planned global trade body, the precursor of the World Trade Organisation (WTO). In 1953 Joseph McCarthy, a prominent anti-communist Republican senator, said the career of John McCloy as the second American head of the World Bank and a diplomat in Germany was an "unbelievable, inconceivable, unexplainable record of the deliberate, secret betrayal of the nation to its mortal enemy, the communist conspiracy". In the 1980s relations with Japan were prickly. In the 1990s China's rise and its currency peg to the dollar were the subject of bitter political debates.

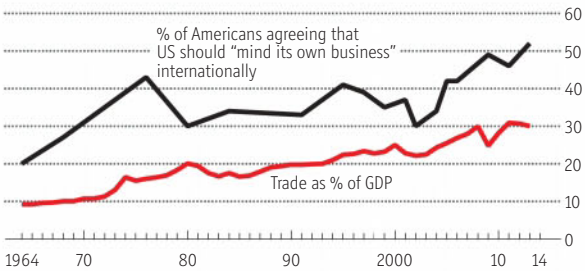
Do the right thing

Optimists point out that America usually manages to overcome its Jacksonian impulses. At the Bretton Woods conference in 1944 it designed and pushed through the IMF and the World Bank, along with a system of fixed exchange rates that lasted until the 1970s. During the 2007-08 crisis American politicians agreed to bail out global banks headquartered in America. They did not stop the Fed from extending up to $500 billion of loans to foreign financial firms and at least the same again in dollar swap lines to foreign central banks.

Congress has always been tricky to handle. It delegates the power to negotiate treaties to the president but can investigate decisions, try to block funding for foreign-policy initiatives and pass laws that influence foreign policy. It also holds authority over the Fed. Even the policymakers of the post-war golden era found it troublesome. Robert Lovett, who as secretary of defence helped Harry Truman build up NATO, said dealing with Congress was like "getting a shave and having your appendix taken out at the same time". Paul Nitze, who helped draft the Marshall

Stop the world, we want to get off

United States



Sources: Pew Research Centre; World Bank

Plan, had to appear before Congress 43 times to defend it, losing 15lb (about 7kg) during the ordeal.

In the 1990s America was again ascendant abroad. Its economic ideas became a global, free-market orthodoxy known as the Washington Consensus. America led the response to the emerging-markets crises of 1995-99, prompting *Time* magazine to label a triumvirate of officials, Alan Greenspan, Robert Rubin and Larry Summers, as "the committee to save the world". America passed the NAFTA trade deal, joined the WTO and shepherded China into it, too. But all this was bitterly contested at home. To bail out Mexico in 1995, Mr Rubin, then Treasury secretary, had to use a kitty of money reserved for currency interventions that did not require congressional approval.

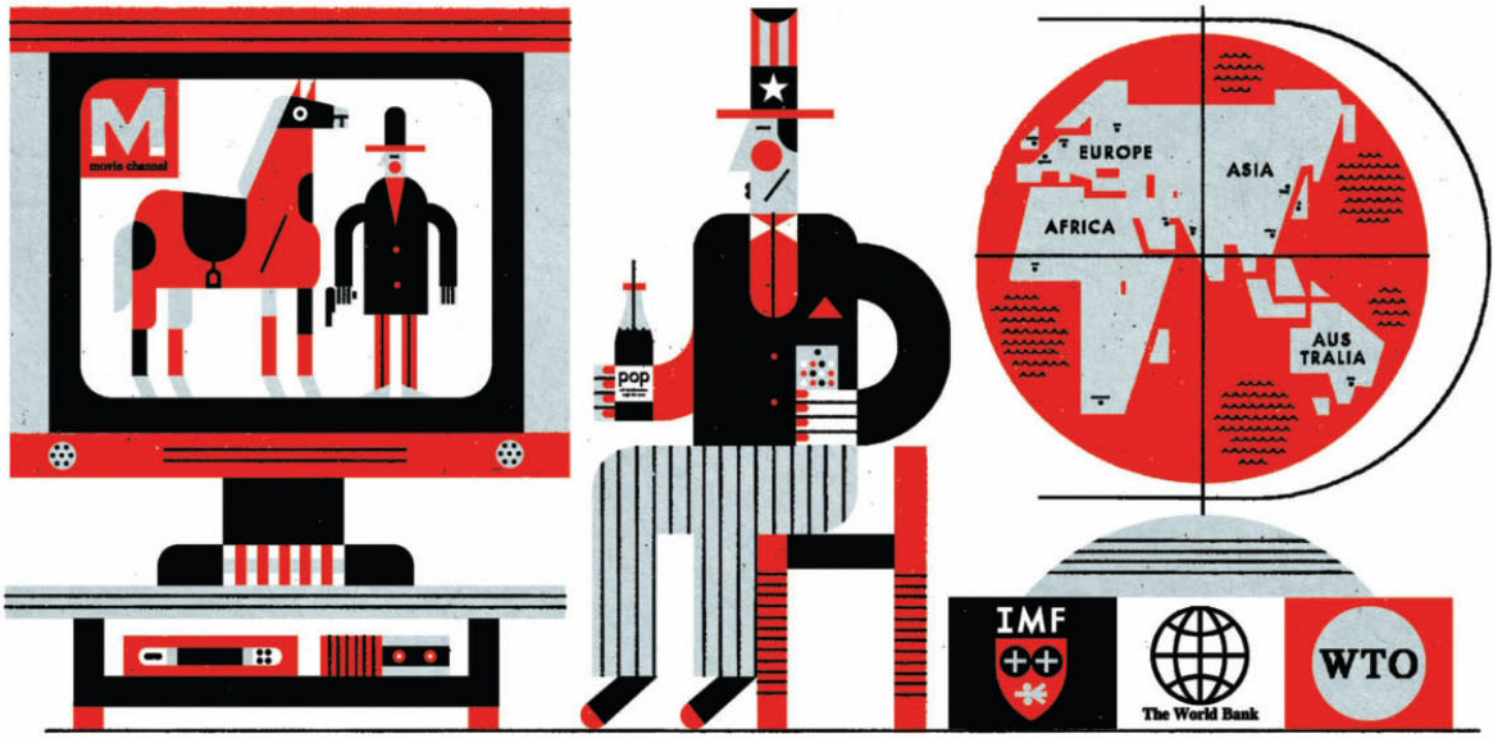
All this suggests that Congress and the American public have always been ambivalent about economic diplomacy, and that the current White House has not been good at managing that tension. But the pursuit of America's enlightened self-interest is also genuinely getting harder, for three reasons.

First, partisan politics have intensified, a fact attributed variously to gerrymandering, to a natural self-induced "sorting" of like-minded people into the same areas, and to the decline of the moderate wings of both parties. Congress has become gridlocked, a problem exacerbated by the 24-hour news cycle, lobbying and the huge sums spent on campaigning.

There is hostility to economic diplomacy on both sides of the political divide. The left wing of the Democratic Party, symbolised by Senator Elizabeth Warren, opposes free trade, perhaps more strongly that it did in the 1990s. The right wing of the Republican Party, the Tea Party, has an expeditionary wing that is willing to use force abroad and an isolationist one that wants to keep the world away from America. Both dislike anything that smacks of world government. Parts of the machinery of economic diplomacy are subject to an operating licence that must be renewed by Congress frequently, for example the president's right to pursue trade deals and try to get them through Congress with a simple yes or no vote, known as Trade Promotion Authority (TPA). These votes are now recurring triggers for ideological battles.

Second, popular discontent with globalisation and worries about stagnant middle-class incomes and shrinking blue-collar jobs have become more prominent. In the abstract, a majority of Americans still support free trade and globalisation. But there are plenty of warning signs. Less than a fifth of them believe that trade creates jobs, and the poorer they are, the less they think it is a good thing. Americans are also suspicious of China, America's most important economic partner. In polls, a majority of them agree that their country should "mind its own business internationally and let other countries get along the best they can on their own" (see chart), and that America's influence is declining.

The third problem is the fallout from the financial crisis, which has exacerbated mistrust of globalisation. It has also made it harder for Wall Street types to work for the government, a staple of American economic diplomacy, thus reducing the quality of manpower available for such jobs. Of the 24 Treasury secretaries



since 1945, 14 have worked on Wall Street at some point. America's economic relations with China after it opened up in the early 1990s were built up by an elite that moved just as seamlessly between the government, Goldman Sachs and Citigroup as their Chinese counterparts did between state-owned enterprises, party appointments and government posts.

The financial crisis has also led to a "populist creep" in which bits of the apparatus previously subject to technocratic control have become politicised. One example is the global dollar payments system, which used to be the responsibility of the Fed and the Treasury. Now lots of different official bodies are competing for authority over it and for the power to levy fines on global activity, which at their worst come with a storm of publicity and gagging orders and without judicial process.

The three pillars of the world's economic architecture, the IMF, the World Bank and the World Trade Organisation, are all in bad repair

Another example is the Federal Reserve itself, whose popularity with the public has fallen over the past decade. Several Republican bills currently passing through Congress are seeking to subject the Fed to more supervision by Congress and the Government Accountability Office. Elizabeth Warren has introduced legislation that would limit the Fed's emergency lending powers to American and foreign banks. These initiatives may not become law, but fear of confrontation with Congress will dull the Fed's appetite to take risks of the kind it did in 2007-08 when it was the world's lender of last resort.

The consequence of American ambivalence is that the three pillars of the world's economic architecture, the IMF, the World Bank and the WTO, are all in bad repair, though for different reasons.

Take the IMF first. It is meant to monitor the world economy and lend money to countries with balance-of-payments problems. Given the size of global imbalances and capital flows, it should have become more important. In practice it is hobbled. This is partly a question of legitimacy. Asian countries faced stringent conditions which the bank (guided by America) imposed on loans during the Asian crisis of 1997-98. Many emerging economies vowed that they would never borrow from it again. That is one reason why they have built up the huge foreign-currency reserves that have distorted American capital markets. The IMF has tried to make amends by allowing countries that it judges to be "very strong" performers to pre-qualify for loans, but so far only Mexico, Colombia and Poland have signed up.

Fund in a funk

In 2009-10 the Obama administration proposed a package of reforms to put the IMF's finances on a sounder footing and increase its legitimacy with emerging economies. European countries would cede votes and seats on the board to emerging economies, although America would retain a sufficient share of the IMF's capital and votes to have a veto. These proposals probably did not go far enough. Emerging economies would still have under half the votes and the capital, and in time the rest of the world might object to America's veto. Even if the reforms were implemented the IMF's permanent kitty would still be only about $1 trillion, nowhere near the $6 trillion of reserves that emerging economies consider necessary as an insurance policy.

All the same, Congress has failed to approve the reforms on four occasions since 2010. Part of its complaint is a nit-picking objection to the technicalities of the IMF's funding; the reform will replace a temporary arrangement with a permanent one. Another grumble is that the IMF has been disproportionately generous to the euro zone. Relative to the size of its GDP and its capital contribution, Greece has received at least five times more money from the IMF than the typical Asian country did in the crises of the 1990s. Congress has a point here, but its objections are perverse because the reform package would dilute Europe's influence within the IMF by cutting its votes and the number of people it can put onto the IMF's executive board. If the obstruction continues for another year or two, other countries may try to bypass America, for example by setting up a parallel fund. That might prompt America to exercise its veto, leading to a bigger spat.

If the IMF is partly beached, the World Bank and the WTO are drifting. The governance of the World Bank, where America has a veto and whose boss it traditionally appoints, has become cumbersome. Emerging economies complain that it is too bureaucratic and obsessed with fashionable campaigns. Its outstanding loans have shrunk from 3% of emerging-market output in 1994 to 1%, although it is now trying to increase them and to reorganise itself. The WTO is still good at enforcing existing trade agreements, but has not managed to bring in a comprehensive new deal for two decades. The so-called Doha round of talks, which began in 2001, has more or less fizzled out. Emerging economies refuse to agree to new trade deals, and America is no longer knocking heads together.

Should anyone care if the IMF, the World Bank and the WTO do not work well? There is no magic about these particular institutions, but a widely agreed international economic framework is worth having. The post-war system hinged on one country looking beyond its narrow self-interest to support a global set of rules. It is now less willing to do that. At the same time the world is becoming more volatile and complex. The best illustration of that is the global monetary and financial system. ■

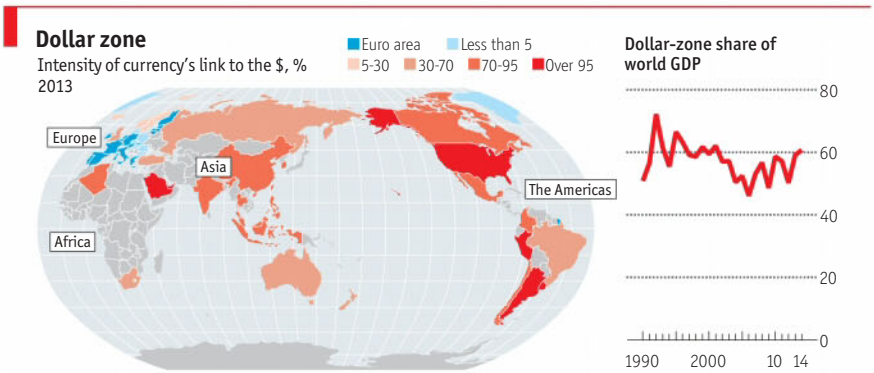
Global monetary system

Thrills and spills

America is at the centre of a global monetary disorder

JOHN MAYNARD KEYNES observed that in the late 19th century London's influence on the global financial system was such that the Bank of England could be considered the world's orchestra conductor. Today America is like the dominant rapper in an anarchic transnational collective. Some politicians reckon that the global monetary system is a source of American soft power. This article will argue that it is unstable and, if unreformed, poses a threat to American interests.

The global monetary system has long been a headache. The gold standard of the 19th century dissolved into depression and chaos in the 1930s. The post-war Bretton Woods system of fixed exchange rates collapsed in the 1970s, to be replaced by a free-wheeling system of floating currencies and mobile capital. Today it suffers from three related problems. First, the old collective-action one that Keynes grappled with: how to resolve the imbalances between countries (their current-account deficits and



Source: "Currency movements drive reserve composition", by Robert McCauley and Tracy Chan, BIS Quarterly Review, December 2014

surpluses) in a way that does not hurt world economic growth. If deficit countries are forced to bear all the burden of adjustment by cutting back their imports, world output will be lower. This has haunted the euro zone, where tensions between northern countries with surpluses and southern ones with deficits were partly responsible for the crisis. Countries that try to cheapen their currency to boost their exports can set off tit-for-tat devaluations that benefit no one. China's devaluation in August has raised fears of such beggar-thy-neighbour policies.

The second problem is newer and more dangerous: the size of gross capital flows sloshing about the world. A country with a current-account surplus or deficit has to invest abroad, or attract, net funds of the same amount. In the 19th and 20th centuries economists tacitly assumed that the gross capital flows moving around the world would roughly reflect those amounts. But after two decades of financial globalisation, capital flows dwarf current-account imbalances. In 2007 they reached about 20% of world GDP. That year India's current-account deficit, for instance, was $16 billion, but the gross capital flows washing into the country were 28 times bigger, partly offset by outflows. Since the 2007-08 crisis very low interest rates have encouraged large-scale speculation, with capital flooding into emerging countries. The chaos in the currency markets this year has reflected the unwinding of these positions.

The third problem is the dollar and America's role in the system. The greenback reigns supreme by every yardstick for an international currency: as a medium of exchange, a unit of account, a store of value and a reserve asset held by central banks. The euro has lost ground, the yen has flopped and the yuan is still in nappies. By one estimate the de facto dollar zone accounts for perhaps 60% of the world's population as well as 60% of its GDP

We all hang together

The crisis of 2023

BY 2023 THE global offshore dollar shadow banking system had grown larger than America's onshore domestic banking system. The euro's credibility had slipped further after Italy's partial default in 2018. The yuan's ambitions beyond its borders came to a standstill during the final days of Xi Jinping's rule in September 2019. In a last effort to placate conservative elements within the party, capital controls were temporarily reimposed, the head of the People's Bank of China arrested for "deviations" and yuan deposits in Hong Kong were frozen. The redback's use abroad never recovered.

That meant the dollar was more in demand than ever as the only reliable medium of payment for global trade. The dollar assets of China's largest bank, ICBC, overtook JPMorganChase's entire balance-sheet. Total offshore dollar credit reached $26 trillion, or about 100% of America's GDP. Emerging countries, with their trade still denominated in dollars, continued to build ever larger dollar reserves. Congress's failure to approve reform of the IMF and the subsequent withdrawal of China, India and Brazil meant there was no global lender of last resort.

In order to create a bigger supply of safe assets, Congress came close to approving the creation of the Invest America Fund, which sold Treasuries to foreigners and invested in shares overseas. But a bitter ideological row over how its surplus earnings would be distributed left the legislation stuck in the Senate. The imbalance between the supply of and demand for Treasuries led to a heavily distorted market.

The crisis, when it struck, came from an unexpected source. Indonesian and Malaysian firms had invested heavily in solar-energy projects, financed by Chinese and other Asian banks, using dollars and supposedly hedged and in some cases redistributed off the banks' balance-sheets, mainly to Asia's burgeoning pension funds. When shale-oil drilling began in earnest in the European Union, oil prices fell to $14, making the solar projects uneconomic. Depositors and bond funds fled from the Asian dollar market into Treasuries, still the world's only safe haven. Analysts estimated the need for emergency liquidity at $5 trillion-6 trillion.

The Federal Reserve proved unable to help. The Fair Fed act of 2017 had prevented it from extending more than $300 billion of liquidity to other central banks. None of the big Asian commercial banks had branches in New York; most had shut them in protest after the New York Superintendent of Financial Services, in an election year, had attempted to fine Bank of China $12 billion and India's largest state banks $9 billion, alleging corruption in the banks' home countries. That meant they were not eligible to access the Fed's liquidity window.

In desperation, the central banks of China, India, Indonesia, Singapore and Malaysia agreed to pool their dollar reserves, totalling $8 trillion, and make massive liquidity injections into the Asian dollar banking system. At first it appeared they had stemmed the panic, with interbank rates falling. But as they sold down their holdings of American bonds, the price of Treasuries tumbled, pushing long-term American bond yields up by three percentage points and prompting talk of a housing crash rivalling that of 2007. In a settlement brokered by the Treasury secretary, Jamie Dimon, America agreed to allow the Fed to offer liquidity to Asian central banks in return for accepting their Treasury bonds as collateral. As the crisis eased, America, China and other Asian countries started talks to create a global lender of last resort and to promote the use of the yuan and rupee abroad. A new era of international co-operation had begun.

(see map, previous page). It is made up of America, the countries whose currencies float in sympathy with the dollar, and countries with dollar pegs such as China.

By law the Fed sets its policy to suit America alone, but a great archipelago of offshore dollar deposits and securities exists outside America. Dollar payments pass through banks that directly or indirectly deal with New York. Countries' trade flows and some of their debts are in dollars, so this is the currency they need. But there is no guaranteed lender of last resort. The Fed lends dollars to foreigners on ad hoc terms. The IMF has insufficient money and legitimacy to play this role. Instead, many countries have built up enormous safety buffers of dollar reserves in the form of Treasury bonds.

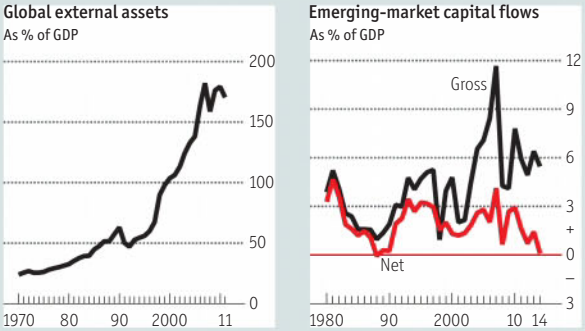
Those vast global capital flows tend to move to America's financial rhythm. Countries with currency pegs have to mimic Fed policy or risk excessive capital inflows if they keep rates too high, or outflows if they keep them too low. Global banks are financed in dollars and expand and contract to mirror conditions in America. Firms with dollar debts or deposits have no control over changes in their interest costs or income. Giant global investment funds, usually headquartered in America, often borrow in dollars, and their mood swings to the beat of Wall Street.

The Anna Karenina principle

Just like Tolstoy's unhappy families, every country in the dollar system is unhappy in its own way. The three problems listed above—imbalances, capital flows and dollar dependence—are mixed into a giant omelette that is near-impossible to unscramble. At the heart of the problem is a piece of economic logic known as the "trilemma". It states that a country can have only two of three things it wants: a stable exchange rate, openness to global capital flows and the ability to set its interest rates freely to suit its own economy. Before the Asian crisis in 1997-98 many countries had fixed currencies and were open to money coming across their borders but had no independent monetary policy. The illusion of stability fostered by such pegs led to a build-up of dollar-denominated debts in emerging Asia. When capital inflows dried up, the pegs broke. Currencies plunged in value, pushing up the cost of dollar debts. A brutal recession followed.

The scars of the Asian crisis explain the emergence of a new consensus: countries should let their currency float so it would act as an adjustment mechanism. Their openness meant they would be buffeted by speculators, but that could be mitigated by keeping their house in order, controlling inflation, deepening local markets and avoiding borrowing in other currencies. For all emerging economies, median net foreign-currency debt (total debt less reserves) has fallen from 20% of GDP in 1995 to roughly zero today. Most countries built up immense dollar reserves and tried to minimise their current-account deficit or run a surplus. China had its own variation, pegging its currency but at a cheap rate to the dollar. That generated vast current-account surpluses which the government heaped into an ever-growing pile of American Treasury bonds.

Tempestuous



Sources: "External Wealth of Nations", by Philip Lane and Gian Maria Milesi-Ferretti, 2013; IMF; "Capital Flows are Fickle", by John Bluedorn *et al*, 2013, IMF working paper 13/183

None of this has worked as well as expected. Take the floaters first. Large capital flows can cause chaos even if your house is in order, roiling local-currency bond markets and interest rates. Just because you do not borrow in dollars does not mean you are immune to jittery foreigners' antics. Foreigners now own between 20% and 50% of local-currency government bonds in Turkey, South Africa, Indonesia, Malaysia and Mexico. Since 2013 the Fed has pondered tightening rates, and every time it gets close, money cascades out of emerging markets.

China and other countries with fixed pegs are fed up, too. When America raises interest rates, the dollar soars and so do their currencies, hurting exports. Moreover, the value of those huge reserves appears to be periodically at risk from a falling dollar, inflation or even default. During the 2007-08 crisis American officials made weekly calls to reassure their Chinese counterparts that it would not default.

Even America has mixed feelings about the monetary regime it anchors. In theory its ability to trade and borrow cheaply and freely in its own currency is an "exorbitant privilege", in the words of a former French president, Valéry Giscard d'Estaing. The financial crisis caused many to reconsider that view. Artifi-

cial demand for "safe assets" in dollars may have pushed up the exchange rate, hurting manufacturing jobs. Indeed, it may have helped cause the crisis. Voracious bouts of foreign buying of Treasury bonds distorted the market, lowering interest rates and fuelling a debt binge by banks and homeowners.

One response is to assume that the global system heals itself naturally. The argument goes something like this. The imbalances between surplus countries in Asia and the Middle East and deficit countries, most notably America, will narrow now that oil exporters are earning less and China is trying to move away from its export-led model. Capital flows have gone over the top as central banks have tried to fend off a depression, but as the dollar rises, emerging economies will use their reserves to stabilise their currencies. The system will start to look more normal.

But that is wishful thinking. If the system unwinds and two decades of globalisation go into reverse, things could turn messy, with emerging markets rapidly selling down their reserves, perhaps disrupting the Treasury market, and capital rushing out. It seems just as likely that the system is self-perpetuating. Imbalances reflect long-term factors, such as a culture of precautionary saving in emerging Asia, which mostly lacks social-security safety nets. The sheer scale of the world's financial system will ensure that global capital flows remain big and violent. Governments still have a strong incentive to run current-account surpluses and to build up huge reserves if they can.

If this crisis-prone system were to stumble along for another decade, it would stretch everyone's nerves to breaking-point. For emerging economies, their relationship with America has become lopsided. Conventional wisdom has it that an American recovery is good for all. It raises global interest rates but also global exports, which in net terms benefits emerging economies. An IMF study concludes that a rise of one percentage point in American bond yields, if driven by hopes of better growth, will push up bond yields in emerging economies, but the resulting rise in American imports will boost emerging markets' industrial production by 2%.

The trouble is that American bond yields often rise for other reasons, which means the net effect may be bad for emerging economies. A dollar rally has been associated with emerging-market troubles in 1980-85, 1995-2001, 2008-09 and 2013-15. And whereas the effect of America exporting its financial conditions is as powerful as ever, its imports of goods from emerging economies have diminished in relative terms. America's share of global imports has fallen by a third since 2000, to 12%. The trade-off from being in Uncle Sam's orbit has become less favourable.

America may find that carrying on as before will become acutely uncomfortable for different reasons. One is the offshore dollar banking system and the risk that America may have to bail it out. The freewheeling Eurodollar market for banking in dollars outside America sprang up in the 1960s to get round red tape in America itself. It has been growing at a furious pace ever since. Foreign banks create dollar deposits and loans at the stroke of a pen: a bank lends a dollar to a foreign firm, which deposits it in a different foreign bank, which lends it out, and so on.

The Eurodollar market was at the heart of the 2007-08 crisis. Dollar depositors and bond investors in European banks panicked and refused to carry on funding them, piling into the safe haven of Treasuries instead and causing a run. Interbank rates in London soared relative to American interest rates. The Fed was forced to provide over $1 trillion of liquidity, by lending to foreign banks through their American subsidiaries and by extending swap lines to friendly central banks (in Europe, Mexico, Brazil, Japan South Korea and Singapore) which in turn made the dollars available to their banks. Even if these swap lines were not used in full, their mere existence calmed the panic.

Since then the offshore dollar system has become even bigger. It is now about half the size of America's domestic banking industry, compared with 10% in the 1970s. Offshore dollar credit (bonds and loans) has risen from 28% to 54% of American GDP over the past decade and from 11% to 16% of world GDP outside America. The Eurodollar is becoming the Asian dollar. A sample of a dozen of Asia's biggest banks (excluding Japan) have a total of $1 trillion of dollar assets, often financed by debt, with Chinese banks featuring prominently. Singapore now hosts $1.2 trillion of offshore dollar bank assets.

Some think that this is a cyclical boom, fuelled by low American interest rates. But it could just as easily be seen as reflecting the dollar's dominance as a global currency: as emerging economies get bigger and more finance-intensive, their use of the

dollar will increase. Assuming that the relationship between offshore dollar borrowing and non-American GDP stays on its current trend, the offshore dollar market could reach $20 trillion-40 trillion by 2030.

Meanwhile the link between America and the offshore system has become weaker. An elite group of banks has always settled dollar payments with each other using CHIPS, a semi-official body in New York, and a mass of other banks deal through the elite. The hierarchy was shaped like a pyramid. But America slapped so many fines on foreign banks that many lenders now keep away from it, so the pyramid has changed shape. The top has got narrower, with almost all transactions funnelled through five or six global firms, including J.P. Morgan and HSBC. They deal with America on behalf of thousands of banks around the world. These big global banks, in turn, are cutting off direct dealings with some customers—Ukraine, some African countries, third-tier Chinese banks, small firms in the Middle East—because the cost of monitoring them has become uneconomic. Those customers have taken to using layers of smaller banks to act as intermediaries with the big global ones. More and more of the offshore dollar world is trying to avoid direct contact with America, making the middle and bottom of the pyramid wider.

The lesson of 2007-08 was that a run in the offshore dollar archipelago can bring down the entire financial system, including Wall Street, and that the system needs a lender of last resort.

An archipelago too far

Could the Fed save the day again? It would be a lot harder than last time. The offshore archipelago is almost twice as large as it was in 2007 and is growing fast, so any rescue would have to be on a much larger scale. The mix of countries involved is tilting away from America's allies. The banks in question are less likely to have subsidiaries in New York that can borrow directly from the Fed or are viewed as palatable by the American legal system. The consequences could be dire (for one possible scenario, see the box earlier in this article).

The system's longer-term viability may also be tested by an inadequate supply of "safe assets" in the form of Treasury bonds. In the 1960s Robert Triffin, a Belgian-born economist, worried that foreign demand for dollars would jeopardise the Bretton Woods system in which the dollar was redeemable against a limited supply of gold at a fixed price. In today's freewheeling currency system the problem is different. Already foreigners own $6.2 trillion-worth of Treasuries, or 60% of the total available. If countries carry on building dollar reserves in line with the size of their economies, and America's debt-to-GDP ratio remains steady, Treasuries could be in short supply by 2035.

America could find sneaky ways to create safe assets, such as offering blanket guarantees of bank deposits and corporate bonds to make them as safe as government bonds. Or it could issue far more bonds that it needs and invest the surplus abroad, acting like a sovereign-wealth fund. But after the bail-outs of 2008 Congress wants to limit the scope of the Fed's safety net. Some believe the IMF could meet the demand for safe assets by creating more Special Drawing Rights (SDRs), a form of quasi-money based on a basket of major currencies. Yet if countries wanted to diversify their reserves they could easily do this directly, without a need for SDRs. They want dollars.

The global monetary system is unreformed, unstable and possibly unsustainable. What it needs is an engineer to design smart ways to tame capital flows, a policeman to stop beggar-thy-neighbour policies, a nurse to provide a safety net if things go wrong, and a judge to run the global payments system impartially. If America's political system makes it hard to fill those vacancies, can China do better? ■

China

A longer march

China shakes the world—but not in the way it hoped

TO TEST CHINA'S chops as an economic hegemon, just walk across the border from mainland China into the special territory of Hong Kong, a global financial centre and a laboratory of sorts for China's ambitions. It lives on trade with the mainland and is a hub for yuan banking. Many shops and machines accept the redback. Yet even this place, on mainland China's border and as open as an economy can get, remains a long way from adopting China's financial habits.

Hong Kong has its own laws, institutions and currency, which has been pegged to the dollar for 32 years. Shares are mainly priced and paid for in Hong Kong dollars. They often trade at different prices to those listed on the Shanghai bourse, which is isolated and badly regulated, sometimes leading to distorted share prices. Only 11% of Hong Kong's bank deposits are in yuan, compared with 30% in American dollars. Most of the capital raised on its markets is in its own currency or the greenback. A global bank, HSBC, is considering shifting its headquarters from London to Hong Kong, but only if it is supervised by the special territory's impressive independent monetary authority, not the mainland's regulators. Hong Kong's richest man, Li Ka-shing, invests six times more in regulated businesses in the West than in his motherland of mainland China.

When China devalued its currency by 3% in early August, unnerving global markets, Hong Kong's officials and bankers were as perplexed as everyone else. Even China's central bank, which implemented the policy, seemed confused. It issued a statement promising nothing less than a system that would "keep the exchange rate basically stable at an adaptive and equilibrium level, enabling the market rate to play its role, and improving the managed floating exchange-rate regime based on market demand and supply". Rather than soothe nerves, this tortured prose prompted a big question. Does the pressure resulting from China's slowdown detract from its ambition to rival America on the world economic stage?

China's economy is open in some ways and closed in others, combining to form an incoherent whole. Foreigners can build factories but not buy bonds. China's firms are the world's second-biggest cross-border investors as measured by their stock of direct investment, but its private fund managers are an irrelevance; three streets in Edinburgh host more international assets. Mainland consumers can buy BMW cars and Gucci handbags, but not shares in the firms that make them. The People's Bank of China (along with related agencies) is probably the biggest investor in the world's most transparent bond market, but is itself as opaque as the Huangpu river. State banks lend like lions to Africa but are as timid as mice in Western capital markets. When China stumbles, the price of oil tumbles, but the oil-derivatives contracts that reflect this are traded elsewhere.

Ambition v stability

The Marxist books that China's leaders once studied suggest that such contradictions must lead to change, and there is something to this. For example, huge sums now drain out of China through cracks in its great edifice of rules, ending up in Manhattan property and Swiss bonds. Allowing foreigners to buy

more Chinese shares and bonds would create a counterbalancing inflow. But China's potential to play an economic role in the world to rival America's rests mainly in the hands of its leaders, and they must weigh their vaulting ambitions against their deep fear of instability.

The ambition part of this is easy to understand. At a minimum China wants the natural privileges a vast economy might expect: a big say over global rules of finance and trade and a widely used currency. Gone are the days when its policymakers played little brother to America's. ("I understand," said Hu Jintao, China's president, in September 2006 when American officials privately requested that the yuan rise 3% by December to placate Congress. By the following May it was up 3.5%). During the financial crisis China realised that its reserves could be at risk from American devaluation or even default. By 2009 Zhou Xiaochuan, the boss of China's central bank, was calling for a new world reserve currency to replace the dollar.

It is not only China's pride that demands a bigger international role but economic logic too. Future trade deals covering new areas such as cybercrime and e-commerce could be tailored to fit China's needs, rather than China having to adopt someone else's rules, as it had to do in 2001 to qualify for WTO membership. With a bigger voice over development lending to poor countries, China could expand and protect its investments.

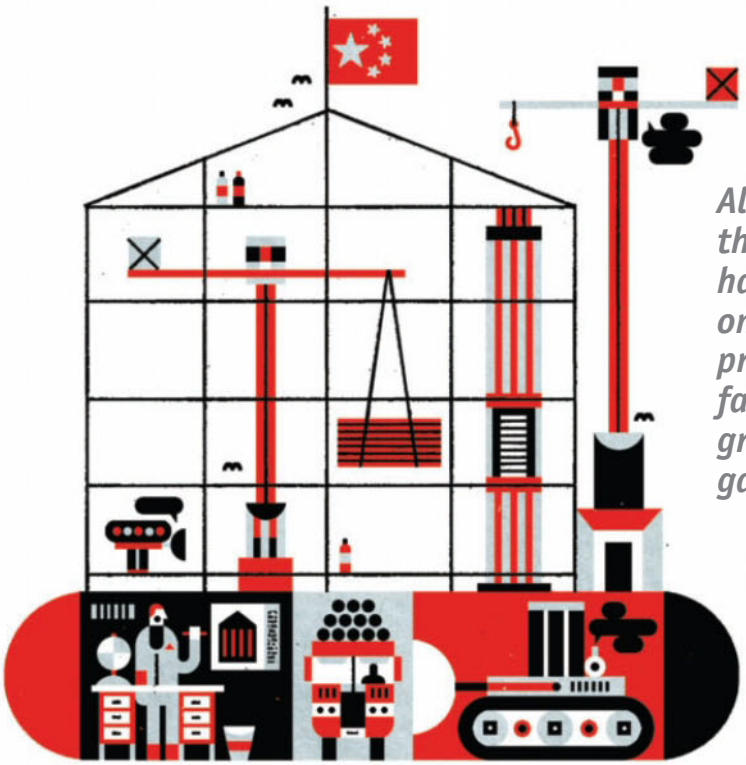
A more international China could escape its subordinate role in the dollar zone. Allowing the yuan to float might, in time, help the economy adjust better and bring down trade imbalances. Prising open the capital account would make it easier for foreigners to buy Chinese bonds and shares and help the yuan become a global currency. If Chinese firms can trade and borrow abroad in yuan and use fewer dollars, China will feel less inclined to hoard dollar reserves. There would be collateral benefits: China would be forced to reform its financial markets, which allocate capital sloppily.

The danger of instability is pressingly important. If growth slows down, China's reformers may face attacks from the vested interests that oppose change: state banks with guaranteed lending margins, state-owned firms that get subsidised loans, exporters that have borrowed in dollars assuming the yuan can only go up. The lesson from China's modern history is that deeper reforms do happen, though with a lag. In 1989-90 growth slowed to 4% after a botched attempt to quell inflation and the bloody events of Tiananmen Square. By 1992 Deng Xiaoping had reasserted his power through his famous "southern tour", in the course of which he pushed for market reforms and outwitted the party's conservatives.

Softly, softly

Growth has not got that low yet. Official figures suggest that it is currently 7%, and bearish private forecasters think 5% is plausible. So far the government has dithered. It has pursued membership of the SDR, the IMF's basket of elite currencies, a symbol of its international ambitions and its need for validation by American-designed institutions. But it has also made a clumsy attempt to prop up its stockmarkets. The devaluation of the yuan in August this year can be read either as a reform to make the redback more freely tradable or an act of panic to boost exports that tilts China back towards the mercantilist policies of the past. It has been a rare misstep by Mr Zhou, the head of China's central bank, who is widely seen in America as the Chinese leader most committed to liberal reforms.

Fear of instability limits how far even the reformers are willing to go. China's repressed financial system leaks and strains in many places, but the government does not want to swap this for one that gets battered as waves of foreign capital from global markets wash in and out. The aim is to make China's capital account open, but not freely so, imposing fiddly rules on inflows and outflows to put off speculators.

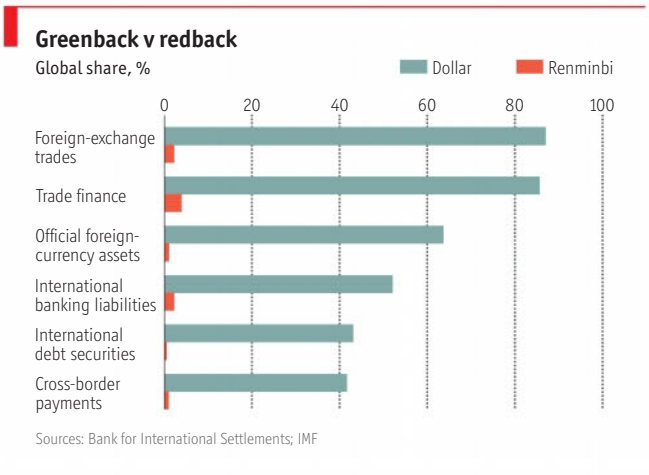


Although the yuan has made only slight progress so far, it will gradually gain clout

China wants to be an economic superpower abroad, but on its own terms. It has built the international monetary equivalent of a ten-lane motorway with no cars on it, or a ghost city of skyscrapers. The government-built infrastructure is there, but so far the people have not come.

Stand and admire the yuan swap lines between China's central bank and 32 foreign ones, worth $500 billion (on a par with the Fed's dollar lines); 17 hubs trading around the world, including Doha and Toronto, where China's state banks clear yuan deals; quotas that let $146 billion of offshore yuan enter the country via the stockmarket (Hong Kong's stock exchange and Shanghai's also trade directly with each other to the tune of $4 billion a day); and a China-based yuan clearing system equivalent to the New York dollar one for foreign banks due to open this year.

Behold the skilfully drafted articles of the Asian Infrastructure Investment Bank (AIIB), signed in June at the Great Hall of the People in Beijing by 50 countries, including 13 members of NATO as well as such cosy bedfellows as Iran, Israel and Saudi Arabia (the main holdouts are America, Canada, Japan and Mexico). It will have $20 billion of paid-in capital



and a further $80 billion of callable capital. China has 26% of the votes, giving it a veto over hiring and firing the bank's boss, big capital raisings, constitutional changes and booting out members. America may be uneasy about that, but China could point out that it is supplying 30% of the capital and that it is mimicking America's vetoes at the IMF and the World Bank. Jin Liqun, the AIIB's boss, sought advice in Washington about how to set it up.

Marvel at the China-anchored trade deals now in the works, not least a pact known as RCEP that takes in China, India and 14 other Asian countries which between them generate 30% of world GDP. It is due to be completed in 2016. China is discussing bilateral trade deals with India, the Gulf countries, including Saudi Arabia, and the ASEAN club of South-East Asian countries. President Xi Jinping's "One Belt, One Road" initiative envisages Chinese investment and transport links stretching as far as western Europe.

None of this government-directed infrastructure and diplomacy has yet had much impact on the ground. The surest measure of this is the still-puny stature of the yuan. As a means of payment, it appears at first sight to be making rapid progress. About a quarter of China's trade and foreign direct investment flows are now said to be in yuan.

But these figures are misleading, since they include mainland trade with Hong Kong, where about half of all payments are in yuan. If that is left out of account, the share of China's trade with the world conducted in yuan comes down to below 10%. The proportion of yuan payments over the SWIFT system used by global banks is only 1%. China's big trade partners barely use the yuan in their bilateral trade with the Middle Kingdom. The figure for Australia is 0.7% of bilateral payments with China. Of South Korea's exports to China, 94% are paid for in dollars and 2.9% in yuan.

As a reserve asset the yuan is peripheral. Other Asian central banks complain that it is hard to buy yuan government bonds; China's putative membership of the SDR basket does not solve this problem. As a store of value for the private sector it has yet to step up to the big league. Of international bonds issued in 2014, just 1.4% were in yuan. McDonald's, among others, has issued yuan bonds, but 96% of its debts are in dollars, euros, sterling or yen.

Some $400 billion-worth of yuan deposits sit offshore, mainly in Asia. But even in Hong Kong and Singapore, Asia's main financial centres, the value of offshore dollar deposits is four times larger than that of yuan ones. This ratio has changed only slightly over the past two years. Redback deposits are often speculative. Offshore banks that raise them are unable to lend them all out again, so they have to park the cash in mainland banks. Bankers in Hong Kong expect yuan deposits to decline as people worry about further Chinese devaluations.

Although the yuan has made only slight progress so far, it will gradually gain clout. An even bigger shove from the state could help. Foreign firms could be offered discounts or win brownie points if they buy from China using the redback. Samsung, a South Korean colossus, plans to settle flows between its Chinese subsidiaries and its headquarters in yuan.

China is the world's biggest commodity buyer, but oil is traded in dollars. Perhaps Saudi Arabia, which now sells as much oil to China as it does to America, could be persuaded to accept some yuan, despite its reliance on American fighter planes and missiles. In 2010, at the height of the commodities boom, global mining firms forced China to shift from long-term contracts to market-based pricing. Now that the miners are on their knees, China can bully them in turn. State-backed banks, too, could be prodded to do more. China's biggest bank, ICBC, has substantial operations in South-East Asia, only some of which involve yuan.

Eventually the offshore yuan world could become much bigger (although not as large as the dollar archipelago). The yuan has a sizeable lender of last resort, in the form of the swap lines the People's Bank of China extends to foreign central banks. Offshore deposits are governed by laws made in Hong Kong and elsewhere, so investors do not have to worry about China's legal system. China might well develop ways to protect its payments system from America's extraterritorial laws. It will be possible—if not easy—to use a yuan deposit in London to do business in China. The paperwork needed to use it to buy a security, asset, good or service on the mainland will be streamlined over time.

An open society

So why not go the whole way and open up China instead of walling it off from the world? It comes back to the question of stability. A fully open capital account could cause a shock as money from around the world floods in. There are not enough securities available. The freely traded bit of China's stockmarket is only the size of Switzerland's. The value of the central-government bond market is only a bit bigger than Britain's. And no one knows how much cash might flood out as Chinese people try to diversify their portfolios or put their assets somewhere safer. In the past 12 months the underlying capital outflows have reached a staggering $500 billion.

To make this process safer, China would need to consider a number of reforms. These include overhauling its stockmarket regulation; making its central bank more independent; selling the government's shares in state-run firms to increase the supply of tradable equity; preparing state-run banks for a possible deposit run as savers get more choice abroad; and allowing a large private-sector asset-management industry to flourish and sell foreign products. China would have to brace itself for global capital flows rushing in and out, changing asset prices in an instant.

Opening up China is a political question, and the party is not ready. Given the loss of power this would involve, it may never be. James Carville, an adviser to Bill Clinton, once said that he would like to be reincarnated as America's bond market, because it could intimidate anyone. Xi Jinping is not about to let China's bond market boss him.

China is on course to be a giant in trade and direct investment and a mid-sized power in finance, currencies and financial markets. That tempered ambition might be in its own interest, but it does not resolve the problems of the global financial and monetary system. China will not be a counterbalance to or a substitute for America soon. So what will fill the vacuum? ■

A new world economic order

Glad confident mornings

Repairing the world's economic architecture and working with China is in America's interest

THE DEBATE ABOUT America's special role in the world economy and China's troubled rise is haunted by the work of Charles Kindleberger, who studied the Depression of the 1930s. A lost decade of trade skirmishes, unemployment and devaluations eventually led to an arms race and a world war, the worst there had ever been. Kindleberger concluded that one country had to be in charge to keep the world safe in future. "The international economic system was rendered unstable by British inability and the United States' unwillingness to assume responsibility for stabilising it…When every country turned to protect its national private interest, the world public interest went down the drain, and with it the private interests of all."

Writing in 1973, Kindleberger worried that America was no longer able to play that role—although, oddly, in those days the challenger he saw emerging was Europe. In time it was replaced by another supposed rival, Japan, but by 1991 that had burned out. A reasonable person might conclude that gurus have been fretting about America's ability to hold on to its dominant economic position for decades. China, too, might crash and burn. The reasonable person might add that in the 2007-08 crisis America more or less did what Kindleberger said a hegemon should, maintaining an open market for goods and providing short-term liquidity (though it was less good at providing long-term loans, another thing he had demanded).

But false alarms do not preclude a real one. A lot has changed since the 1970s and 1980s. America's share of global output has fallen from 36% in 1970 to 22% today, measured at market prices. For all its flaws, China is a far more credible competitor than Japan. Its share of world output is close to where Japan's was at its peak, even though it is relatively still much poorer than Japan was then, so it has plenty of headroom. Global capital flows have vastly increased since the 1970s and 1980s, making the world's financial system more unstable, and the number of financial crises is rising.

A last hurrah?

America's response to the financial crisis of 2007-08 can also be seen as a last hurrah. Officials, as always, did all they could to bail out the banks and refloat the world, but at the cost of shattering the American public's trust in policymakers and causing a populist backlash that is still reverberating today. The way America saved the world in 2007-08 may make it impossible for it to do so again. All this points in a bitterly pessimistic direction. In Kindleberger's words: "Stalemate, and depression."

Yet just as circumstances have changed since the 1970s, so the world's response to a power vacuum need not be the same as in the 1930s. The 75% of the planet's population who do not live in either America or China may well come up with their own answers to some of these problems.

The need for rules to govern trade can be partly dealt with by a patchwork of regional trade deals, of which there are 450 in the works. If the dollar remains dominant but neither America nor the IMF is able to act as a lender of last resort to the system, there are other solutions. Just as English has transcended Britain to become a world language, the greenback could pass into glo- ▸▸

bal ownership. Foreign central banks could use their dollar reserves to guarantee liquidity to the offshore dollar system and club together to create a dollar payments system that bypasses America entirely. They could try to reform the IMF by excluding America from it or create new regional bodies to compete with it. In the past such attempts have not been successful—an Asian club called the Chiang Mai Initiative, for instance, has had little impact—but they could be cranked up. In response to the waves of capital gushing around the world, mainly to the rhythm of financial conditions in America, emerging economies could impose capital controls and restrictions on global banks and fund managers, and continue to build up dollar reserves.

A fiddly alternative

Such a world would have its downsides for participants. It would be fiddly. A patchwork of medium-sized trade deals is likely to be much harder to enforce than a few near-universal deals. It would be inefficient, too, as poor countries' hard-earned savings would be sitting idly as reserves invested in Treasury bonds. Attracting capital might become harder, too, although China's experience suggests that, given the right conditions on the ground, long-term investment might keep coming even when short-term portfolio flows are strictly ruled out. Restrictions on global banks might keep a lid on capital flows, too, and there would be no way to control competitive devaluations.

All this would still be safer than no organisation at all. But from an American perspective the cost of its neglect in recent years would end up being a world that looks a little less like America and rather more like China: less open, more guarded, keen to engage but on its own terms. It is far from clear that this would be in America's interest.

The world need not be a prisoner of the 1930s; but neither is it safe to assume that America's mood will always be as angry as it has been since the financial crisis, or that China will be paralysed by its many paradoxes. The Jacksonian tradition in American politics comes and goes. Perhaps if the economy continues to grow handsomely and more jobs are created, wages will rise at last and America's middle class will breathe a great sigh of relief that will be heard around the world. Americans' belief in their country's exceptional mission has already recovered a little from the depths of the 2009 crisis, opinion polls suggest. Perhaps it can recover a little more. A new president and House of Representatives in 2016 could clear the rancour in the air. Or the election after that might.

Imagine a fantasy American administration and Congress set to act in its own enlightened self-interest and to the benefit of the world

Imagine, for a moment, a fantasy American administration and Congress set to act in its own enlightened self-interest and to the benefit of the world. It would tackle the global paranoia about the lack of a lender of last resort. It would triple the funding available to the IMF, to $3 trillion, and prepare a plan to cede the American veto. It would allow the Federal Reserve to extend liquidity to foreign central banks without a cap and require it to start talks with big central banks with which it does not have swap arrangements, not least China and India.

A big and credible safety net should reduce the build-up of the vast dollar reserves that in aggregate may have a destabilising effect. But to meet long-term concerns about a shortage of safe assets, America would set up a sovereign-wealth fund that would be able to issue Treasury bonds and invest the proceeds abroad for a profit, leaving America's solvency enhanced.

To strengthen the link between America and the world's banking system, America would encourage big foreign banks in the emerging world to open or expand their presence in New York, transfer all powers of supervision from local governments to less politicised and more competent bodies, strictly limit extraterritorial judgments over their operations and take the resulting howls of protest in its stride.

Having revived and legitimised the IMF, America would resuscitate or replace the other two pillars of the global economic architecture, the World Bank and the World Trade Organisation. It could try to use its hoped-for regional trade deals, such as TPP, to create a new platform that takes in rival and duplicative trade deals, and get China and India to join.

This fantasy America would join China's institutions such as the AIIB. It would support China's ambitions to elevate the yuan as a reserve currency, by helping to get it into the IMF's SDR basket, and by establishing New York as a hub for yuan trading. For now the Big Apple is the only financial centre in the world that has no plans or arrangements to support the redback. A big effort would be made to raise Chinese investment in America. Today for every dollar of Chinese direct investment in America there are two dollars of Chinese investment in Europe and up to five dollars of American investment in China.

What would China have to do in return for that support? Most outsiders point to a long list of reforms that they believe to be important. There is no guarantee that any of them will happen. Even so, America seems to have nothing to lose by being more confident and composed. Making the world economy more stable will win it friends everywhere. It will also save it money in the long run.

Take a chance

If China's economy turns out to be a house of cards, the country's claim to global economic superpower status will soon be exposed as hollow. If it becomes ever more autocratic, it will need to become ever more closed to guard against capital flight and foreign influences, which will limit its capacity to affect the world economy beyond its borders. But if it manages to keep growing, to open up and reform, then America will have to reach an accommodation with it some day. Why not start now? ■

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ANNOUNCING THE WINNERS

CONSUMER PRODUCTS AWARD WINNER

For popularising internet music streaming

Daniel Ek
Chief executive officer
Spotify

THE STORY

Passionate about both music and technology, Daniel Ek saw an opportunity to make it easier for people to download and share music legally, rather than by questionable means. He started a company, gathered a team and struck a deal with record companies: he would pay them to stream their artists' music over the internet. Spotify launched its service in October 2008.

THE IMPACT

Rather than buying albums or songs online and downloading them to a computer, Spotify users can instead stream any song in its catalogue of millions of tracks. Its "celestial jukebox" service works on computers and, since 2010, on smartphones too. It is now available in 58 countries, and the average user listens to 148 minutes of music a day. Spotify has more than 75m users, of whom 20m are paying subscribers.

ENERGY AND THE ENVIRONMENT AWARD WINNERS

For creating high-performance electric cars

Elon Musk
Chief executive officer
Tesla Motors

JB Straubel
Chief technical officer
Tesla Motors

THE STORY

Before joining Tesla in 2003, Mr Straubel was co-founder and chief technology officer of Volacom, where he co-invented a hybrid aerospace propulsion system later licensed to Boeing. Mr Musk was co-founder of internet startups Zip2 and PayPal, and the founder of SpaceX, whose rockets now supply the International Space Station. Under their direction, the Tesla team designed a power train for a sports car, the Tesla Roadster, launched in 2008. It could accelerate from 0-60mph in 3.7 seconds and had a range of 245 miles, setting a new standard for electric mobility. It was followed in 2012 by the Model S, a high-performance five-door luxury saloon with a range of 265 miles that has won numerous industry awards.

THE IMPACT

Tesla owners charge their cars at home rather than filling them with hydrocarbon fuel. For long-distance journeys, Tesla's Supercharger network provides free access to high-speed charging, replenishing half a charge in as little as 20 minutes. Essentially computers on wheels, Tesla's vehicles can be updated remotely to provide new features and improve performance. The company has sold over 75,000 vehicles and had revenue of $3.2 billion in 2014. Its products have transformed the perception of electric cars.

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Russia in Syria

A new spectacle for the masses

Vladimir Putin embarks on a risky campaign to prop up the Syrian regime and embarrass America

IF HIS intent was to draw attention to his military muscle, he certainly succeeded. Vladimir Putin, Russia's president, became the first leader in the Kremlin since Leonid Brezhnev, who invaded Afghanistan in 1979, to send military aircraft on bombing missions outside the territory of the former Soviet Union. On September 30th, Russian jets began a targeted campaign in parts of Syria held by rebels in order to prop up the beleaguered regime of Bashar al-Assad, a Russian client.

Not since the Boxer rebellion in 1900 have Russian forces fought in such proximity to American ones. In Kosovo they came close. In Syria they share the same skies: America is attacking the jihadists of Islamic State (IS); Russia says it wants to strike IS but has in fact started by attacking other Sunni rebels (including some who have received American weapons) who pose a more direct threat to Mr Assad.

Mr Putin has ruled out the use of ground forces in Syria, for fear of awakening painful memories of the Soviet debacle in Afghanistan. But by deploying jets and air-defence systems, Russia is complicating Western operations in Syria. France this month joined America in the increasingly crowded skies of the Levant.

Russia has prepared its air campaign for some time. Two weeks ago it held elaborate domestic war games in terrain closely resembling the Syrian desert. Russian war reporters who spent months on the eastern Ukrainian front lines have suddenly appeared in Syria, cameras rolling at the site of terrorist attacks.

The Russian Orthodox church has spoken of a holy war. But for the Kremlin it is just as important to be seen to be confronting America, which Mr Putin accuses of trying to dominate the world. Dmitry Kiselev, Russia's chief television propagandist, put it with wilful inaccuracy: "In Syria, America stands on the side of the terrorist caliphate. Together they are trying to destroy Syria as a secular state."

Spade-work

Russia's bombing in Syria was preceded by a flurry of diplomatic activity. On September 28th Mr Putin spoke at the United Nations General Assembly in New York, comparing Russia's role to that of the Soviet Union in 1945 and blaming America for unsettling the Middle East. "I am urged to ask those who created this situation: 'Do you at least realise now what you've done?' But I'm afraid that this question will remain unanswered, because they have never abandoned their policy, which is based on arrogance, exceptionalism and impunity," Mr Putin declared from the podium.

Russian media portrayed him as a superman who has to clean up a mess. Ria Novosti, the state news agency, and other government propagandists flooded social-media networks with messages bearing the hashtag "#PutinPeacemaker".

The president has received some verbal support for his new campaign from the Italian prime minister and the German foreign minister, among others. But in America he is still viewed as a villain. A meeting with Barack Obama—the first long one since Russia's annexation of Crimea—ended with no result. Trust between the two leaders is the lowest it has been in decades, say close observers.

Mr Putin may be hoping that by claiming to fight IS he can force America into accepting him again as a partner in power, one too important to be isolated by sanctions imposed by the West in response to the war in Ukraine. Yet his gambit is laden with risks. Russia could get bogged down in what may be an unwinnable conflict. Its relationship with America could get worse rather than better, especially if the two military forces clashed, even inadvertently. Russian pilots might, given the lack of coordination in the skies, fall into the hands of knife-wielding executioners. "Putin miscalculated in Ukraine and he may miscalculate in Syria," warns Dmitry Trenin, the head of the Moscow Carnegie Centre, a think-tank. So why take such risks?

Russia's official—and not entirely unreasonable—response is that IS poses a threat to its national security, particularly in the north Caucasus, where many young fighters in Syria come from. The timing of the deployment was also partly prompted by the fact that Mr Assad's forces have been losing ground. While the Kremlin ▸▸

cares little about his personal fate, it needs him, or another ally, to stay in power long enough for Russia to have a say in any international negotiation on the future of Syria. There is also Russia's naval base in Tartus on the Syrian coast, its only foothold in the Middle East, which is a big market for Russian-made arms.

Even more important for Mr Putin is his hold on power at home, and here too Syria may be of use. The bombing provides a new and badly needed spectacle at a time when the war in Ukraine, which dominated the airwaves for a while, is starting to freeze and euphoria over the annexation of Crimea is fading. On top of that the Russian economy, hit by sanctions and falling oil prices, has been shrinking fast. During his first two presidential terms Mr Putin could boast about growing incomes. In his third term, he seems to rely more on the theatre of war and a manufactured sense of pride in challenging America.

"Syria provides a useful distraction from Ukraine, but strategically it is about America," says Mr Trenin. So far Mr Putin has avoided a direct clash with his great rival, but he has trapped Russia in a dangerous spiral of confrontation. As Georgy Mirsky, a venerable Middle East expert at Moscow's Higher School of Economics, says: "The rules of the confrontation dictate that you find your opponent's weak spot and hit, hit, hit." ■

Germany united

The trouble with Saxony

DRESDEN AND HEIDENAU

The cradle of reunification struggles more than other German regions with open borders and open minds

SAXONS have reason to be proud as they celebrate the 25th anniversary of German reunification on October 3rd. They were the first East Germans to take to the streets in 1989, shouting "Wir sind das Volk" ("We are the people"), a cry for freedom from their communist rulers. Within months their peaceful protest had spread across the country and toppled the Berlin Wall. In less than a year East Germany was dissolved and Saxony became one of the unified country's 16 federal states.

Today Saxons are associated with a different cause. Members of a xenophobic movement calling itself PEGIDA, short for "Patriotic Europeans against the Islamisation of the Occident", have been marching through the state capital of Dresden every Monday for the past year. Last week they numbered 10,000. Only 0.1% of Saxony's population is Muslim (the German average is about 5%), and foreigners in general are rare. Yet the demonstrators are once again shouting "Wir sind das Volk", this time with an ominous ethnic ring.

Some Saxons do more than shout. While other Germans welcomed Arab, African and other refugees pouring into the country this summer with sweets and flowers, neo-Nazis attacked asylum centres near Dresden. For two nights in the town of Heidenau, where several hundred refugees were being put up at a former home-improvement store, they fought street battles with the police. Families with children turned out to support the thugs.

The images on television were so disturbing that politicians began visiting Heidenau as though it were the site of a natural disaster. Sigmar Gabriel, the vice-chancellor and economy minister, called the rioters a "mob". The rioters sarcastically started chanting "We are the mob." Angela Merkel, the chancellor, came and declared defiantly that there must be no tolerance of the intolerant. Across the street women held up signs calling her "a traitor to the people".

Heidenau restarted an old debate: are eastern Germans, and especially Saxons, more xenophobic than other Germans? The leaders of the five states that once made up East Germany warned against stereotyping and pointed out that most easterners are tolerant. Both Mrs Merkel and Joachim Gauck, Germany's president, are from the east. And attacks on asylum centres have occurred across the country.

All true. Yet far-right violence is more common in the east. Last year almost half of all racist attacks in Germany occurred in the eastern part, even though it has just 17% of the population and receives only 16% of refugees. According to Pro Asyl, a foundation that helps refugees, of the several hundred assaults on them or their shelters in the first half of this year, 60% took place in the east. Saxony is a particular hotspot.

Voting patterns tell a similar tale. The NPD, a neo-Nazi party which state governments are trying to ban, won a trifling 1% in Germany overall in European elections last year. But it is represented in the eastern state parliament of Mecklenburg-West Pomerania. It was also in the Saxon legislature until 2014, when it failed to win the 5% necessary to be represented; according to polls it would win seats again if an election were held today. Within Saxony the NPD does best in the counties south-east of Dresden, between Heidenau and the Czech border, winning more than 10% in some (see map). Another xenophobic but less extreme party, the Alternative for Germany, also polls strongly there.

Known as "Saxon Switzerland" for its picturesque sandstone mountains carved by the River Elbe, this corner of Germany has been memorialised by German romantics such as the 19th-century painter Caspar David Friedrich. Locals cling to a long-lost glory dating from the 18th century under August the Strong, Saxony's most glamorous and libidinous ruler ("Every Saxon today has a little August inside," locals joke). But Saxons have also historically nurtured a sense of victimhood and suspicion toward outsiders. They loathed the Prussians to the north, even entering a disastrous alliance against them with Napoleon. Dresden mourns its destruc-

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tion—by Allied firebombing in 1945—more solemnly than any other German city.

While they were part of East Germany during the cold war, Saxons felt especially isolated because, far from the iron curtain, they could rarely receive West German television signals. Other East Germans called the region "the valley of the clueless". Many Saxons, like other easterners, still feel alienated in the reunited Germany. Since 1995 economic catch-up with the west has stalled. Labour productivity per person remains at 76% of the western average and will probably stay there for another 25 years, says Joachim Ragnitz at the Dresden branch of Ifo, a well-known think-tank. Net migration to the west has abated, but the brain drain was long and its effects have persisted.

Saxony does have the best education system in Germany, along with Bavaria in the west. The Technical University of Dresden ranks near the best in the country. Leipzig and Dresden are trying hard to market themselves as "Silicon Saxony". Dresden recently hosted an event called "Start-up days 2015". Yet academic leaders worry that foreigners are reluctant to move to Saxony, because of its reputation for intolerance. A western doctor at a university clinic, who optimistically moved to Dresden years ago, says that "Saxons send signals that are unbearable for internationally-minded types. I have never felt so mentally alien as here."

Many Saxons still consider outsiders—along with reunification, capitalism and globalisation—a threat to their way of life. Given the recent refugee influx into Germany, dark-skinned Muslims and other foreigners are arriving in numbers Saxons have never seen. Many residents are volunteering to help. Some protest against neo-Nazis wherever they show up. But others bare their fangs. One resident of Pirna, "the gate to Saxon Switzerland", recalls the opening of the first Turkish kebab shop in the 1990s. Locals responded by wearing T-shirts praising local sausages. ■

Refugees in Turkey

No good deed goes unclaimed

BODRUM AND IZMIR

Turkey's government plays a two-faced role in the regional refugee crisis

FROM the Bodrum peninsula in Turkey the Greek island of Kos is only four kilometres (2.5 miles) away. European tourists can make the 45-minute crossing comfortably for $19, while those fleeing evil in Syria and elsewhere must pay smugglers a minimum of $1,000 for a perilous night journey in a crowded boat.

Turkey generously opened its borders after the Syrian civil war erupted in 2011. Nearly two million refugees are currently registered in the country, of which about 200,000 are housed in official camps, mostly in the south. A growing number are seeking a better life in the EU and are crossing over to Greece by the thousand every day, causing severe anxiety in parts of Europe and creating tensions along borders farther north.

Not unreasonably EU leaders have ▸▸

Meltdown at FIFA

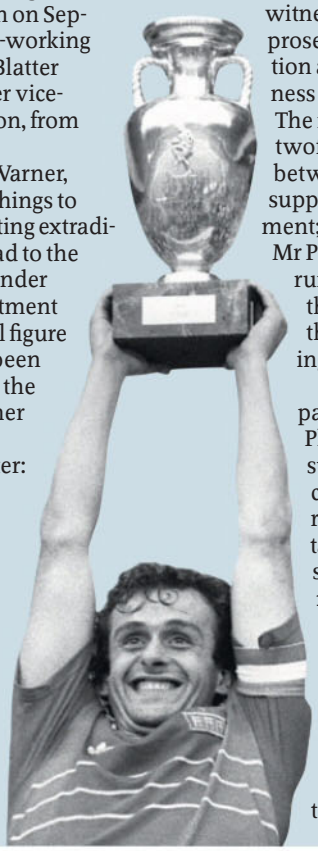
The continuity candidate

Michel Platini was the favourite to lead world football. Now, not so much

AFTER the excitements of the previous week, when Switzerland's attorney-general announced that FIFA's limpet-like president, Sepp Blatter, was under formal investigation for two instances of "criminal mismanagement and misappropriation", it has been a quiet few days at the Zurich headquarters of football's world governing body. Passing almost unnoticed was the decision on September 29th by FIFA's hard-working ethics committee to ban a Blatter crony, Jack Warner, a former vice-president of the organisation, from the sport for life.

Nobody, including Mr Warner, much cared. He has other things to worry about, not least fighting extradition from his native Trinidad to the United States. There he is under investigation by the Department of Justice for being a central figure in the corruption that has been endemic at FIFA for at least the past two decades. Mr Warner is at the heart of one of the charges levelled at Mr Blatter: the allegation that in 2005 FIFA sold the Caribbean television rights to the Caribbean Football Union controlled by Mr Warner for $600,000, only for the rights to be sold on to a Jamaican broadcaster for $20m through a Warner-owned company. But there is more interest in the future of Michel Platini, the head of Europe's football federation and, until last week, the favourite to succeed Mr Blatter.

One allegation against Mr Blatter is that he made a "disloyal payment" of 2m Swiss francs ($2.5m) to Mr Platini in February 2011 for work done for FIFA between 1999 and 2002. Mr Blatter denies both the charges, and Mr Platini says that he has only been interviewed as a witness, although the Swiss prosecutor describes his position as being between "a witness and an accused person". The reason for suspicion is twofold: the length of time between when the work was supposedly done and the payment; and the coincidence that Mr Platini had been thinking of running against Mr Blatter for the FIFA presidency, but then backed down, endorsing him in the spring of 2011.



Both Mr Blatter, who departs in February, and Mr Platini now face possible suspension by the ethics committee. They join Jerome Valcke, FIFA's secretary-general, who was suspended on September 18th over allegations that he was involved in a World Cup ticketing scam. Mr Platini, if he survives, is increasingly seen as the continuity candidate. Under the circumstances, that may not be the best thing for his chances.

turned to the Turkish government for help to stem the flow of migrants. President Recep Tayyip Erdogan will visit Brussels in early October to discuss security issues including borders. But his government has rejected an EU offer to reassign €1 billion ($1.12 billion) in aid for refugees. It also opposes opening new camps or setting up processing stations.

Instead Turkey calls for the establishment of a security zone along the border in northern Syria where refugees could be resettled. This would require clearing the area of Islamic State (IS) fighters and, Ankara suggests, handing control to moderate Syrian opposition groups.

The plan would neatly serve Turkey's separate aim of reducing the influence of Syrian Kurdish fighters. Many Turks are more worried about Kurdish rebels than IS. Yet Germany's Angela Merkel has expressed doubts that the refugees' safety could be secured inside Syria. Not entirely by coincidence, the Turkish authorities have generally turned a blind eye to the refugee flow to Europe, though they have repeatedly prevented refugees from crossing the land border to Bulgaria and Greece and driven them back into Turkey.

Death traps

Smugglers do brisk business with Syrians, Iraqis, Afghans and Africans trying to reach Europe across the sea, often at a horrific cost. On September 27th, a group of 17 Syrians and Afghans, including women and children, drowned in the cabin of their capsized boat. Many blame the risks on greedy middlemen. Prices keep on rising and in response refugees are increasingly buying their own rafts, making the crossing even more precarious. A 20 year-old Afghan in Bodrum, who was stopped at sea the night before, says he teamed up with ten others paying $300 each to buy an inflatable raft.

In Izmir, another smuggling hub, refugees stay in cheap hotels in the Basmane district while arranging their trip, if they can afford it. "We saved for years to build a home and in minutes it was destroyed," says a 26-year-old teacher from Deir ez-Zor in eastern Syria. A 35-year-old woman seeks cancer treatment for her four-year-old son. Nearby shops sell life jackets for upward of $20. They are "100 % waterproof", a merchant insists, but many doubt that. A vendor of sealed passport holders says he has been selling up to 100 per day for the past month.

Refugees contact smugglers through Facebook and by mobile phone. A 55-year-old Christian electrical engineer from the Syrian city of Hama chose a Syrian operator recommended by friends who successfully reached Greece. He and his sister paid $2,000 each, deposited in trust in a Syrian-run office nearby, for what he hoped would be a safe trip in a larger vessel. The money is to be released when he reaches the other side. In the courtyard of a mosque, several families with young children camp on cardboard sheets, relying on hot soup, bread and rice distributed by local shopkeepers and concerned individuals to survive. They are stranded, having exhausted their resources. The men try to find work on construction sites.

As the evening approaches, the pace of activity picks up. Clusters of travellers with backpacks jostle on the corners of streets near the port, waiting for a signal by phone to set off. The approach of winter is creating a sense of urgency. As the sea cools down and the risks of crossing grow the flow is expected to slow. But it will not stop. A volunteer rescue worker in Bodrum says, "The refugees will keep trying until they succeed or die." ■

Italian punters

An offer they couldn't refuse

ROME

Gambling is booming, helping the government but feeding addiction

CONFRONTED by a man in a mask brandishing a pistol, the owner of a jewellery shop in Battipaglia, south of Naples, quickly surrendered the afternoon's takings of around €700. Police later discovered that the pistol was a replica, and the 49-year-old thief, who has not been named, went straight to a post office to pay the money into his overdrawn account.

His robbery was driven by an affliction that has become increasingly common in Italy in the past decade: addiction to gambling. The thief, who had no previous criminal record, lost all his family's money and more on scratch-cards and gambling machines.

According to the Global Betting and Gaming Consultancy, Italians lost €17.2 billion last year, almost three times more than in 2001. They overtook Spaniards as southern Europe's most ardent punters in 2005. The impact of the financial crisis was not felt until 2011, when amounts staked and lost declined modestly. Italy today prints a fifth of the world's scratch cards and hosts a third of its video lottery terminals.

A growth industry

The gambling boom is linked to the Italian government's difficult financial situation. Faced with large debts, successive finance ministers have seen in gambling a juicy source of tax receipts. Nearly half of what Italians lose goes to the treasury. Governments have legalised one form of betting after another. Wagering on the outcome of football matches came first, then gaming machines and, in 2009, online betting. By 2014 gaming machines (including video lottery terminals) were to blame for half the gambling losses of Italians.

How many people are addicted is uncertain. Some recent estimates have put the number at close to a million. Advocates for the industry question those figures. But even Massimo Passamonti, the president of Sistema Gioco Italia, an industry lobby group, complains that the government's dash for cash has led to "an excessive presence of gambling opportunities".

His association is pushing for a reduction in the number of gaming machines and a more comprehensive and rigorous national system of regulation. The proposals have not so far been adopted by the central government, but local and regional authorities in several parts of the country have taken action, in many cases banning slot machines near sensitive places such as schools.

Mr Passamonti argues that the growth in legal gambling has had the positive effect of eroding betting rackets run by the Mafia. But, though diminished, the illegal sector is by no means extinct. Police estimate that its turnover is about a quarter as large as that of the legal one. On September 15th police in Naples closed down five firms and impounded 3,200 slot machines allegedly belonging to a branch of the Casalesi faction of the local criminal fraternity.

Charlemagne | Leaders in driverless cars

What happens when left-wing politicians confront new technologies

THE inquiring progressive mind, scanning Europe for new thinking on the left, would not instinctively turn to France. No eager throngs gather for debates at the headquarters of the *Parti Socialiste*. No French intellectual review churns out required reading on how to remodel social democracy for the 21st century. If anything, under President François Hollande, France seems to be stuck chasing old ghosts and replaying its own history—a modern remake of the 1983 U-turn, when François Mitterrand jettisoned hyper-taxation and accepted the free market.

Yet the election in Britain of Jeremy Corbyn, Labour's new retro leader, has the disconcerting consequence of making French socialism look like a bold step forward. Not that the Socialist Party machine itself has changed much. Its sectarian cliques still wage yesterday's wars over platters of *fruits de mer* at seaside conferences. And the left's intellectuals, including Thomas Piketty, an economist now on occasional loan to Mr Corbyn, remain preoccupied with denouncing austerity and modelling a more progressive tax system. Yet peer into a tiny corner of the government under Manuel Valls, the centre-left prime minister, and one finds an effort to think ahead that could resonate beyond France. Nimble minds are asking how to arm the left for a world hurled sideways by disruptive technology and automation.

A glimpse of the new mood was on show last week in London, when two Frenchmen in their late 30s leapt on the stage at an investor event. One, an entrepreneur, put on a tie (presumably to show seriousness). The other, France's economy minister, Emmanuel Macron, took his off (presumably to signal hipness). He has become the liberal left's foremost agitator. The entrepreneur, Frédéric Mazzella, has just led BlaBlaCar, his ride-sharing startup, which has 20m users from Mexico to India, into the tiny club of European market newcomers valued at over €1 billion ($1.12 billion). Their shared message: France is embracing disruptive innovation (Paris is one of Uber's busiest markets outside America, even though French prosecutors are pursuing Uber executives), and trying to make it work for all.

Emboldened by books such as "The Second Machine Age", by Erik Brynjolfsson and Andrew McAfee, Mr Macron and his friends are grappling with how to rewrite the rules of equality and welfare for the digital economy, which hollows out the salaried middle, spreads freelance work and sidelines union-backed incumbents. What, they ask, will the left have to say when driverless cars make unionised taxi-drivers redundant? Or about legal working time in an Uberised economy where freelancing prevails? Such questions may seem otherworldly to those handing out flyers and treading pavements to try to stave off electoral defeat today. But the workplace shake-up is on its way faster than Mr Hollande can perform a pirouette on economic policy. Nearly 25% of Europe's workforce is not salaried. Mr McAfee reckons that half of today's jobs will in time be automated out of existence. And France is ripe for disruption: mergers aside, the youngest firm in the CAC 40, the main stock index, was founded in 1967.

"The left has built its history around the extension of collective rights," Mr Macron recalls. Now, "the transformation of the economy risks bringing to an end this adventure of collective progress." The challenge, he argues, is to "build a form of neo-progressivism, structured around the idea of individual progress for all, in a way that combines agility with security." What does this mean in practice? Work will increasingly need to be measured by tasks accomplished, not time spent behind a desk. Protection and benefits, such as training or social insurance, will need to be individualised for *à la carte* careers.

Furthermore, regulators will need to put consumers first. "They vote every day, by taking Uber," says Mr Macron. "We have to take it into account and build a fair framework." Workers, after all, are transformed after work into shoppers and may seek late-night bargains or a ride summoned from their phone. For the left to side only with those threatened by technology is to favour conservatism and the defence of insider privilege. "Rules need to evolve with society," observes Mr Mazzella. "Macron is trying to encourage disruption as fast as society can accept it."

Bewildered Labour moderates at their party conference in Brighton might willingly have traded some of this new-economy zeal for the old-economy ruminations of their leader. Yet Mr Macron, an unelected one-time investment banker with a philosophy degree, faces the reality that his ideas are about as welcome among many French Socialists as a corked bottle of Bordeaux. At best, he is an irritant; at worst, toxic for the Socialist brand.

Celebrated in history textbooks

For all the past efforts to reconcile the party with the market, French Socialists find Mr Macron's talk not just uncomfortable, but in collision with the left's defining narrative: the long historical march of collective progress. The struggle for shared, incremental rights is seared into young French minds: the right for all to two weeks' paid holiday in 1936 under Léon Blum, extended to five in 1982 under Mitterrand; the working week capped at 39 hours in 1982, reduced to 35 hours in 2000. To query the merits of a shorter working week, says one Socialist, is to throw out "a hundred years of struggle, tears, sweat and blood".

Technology has long disrupted politics as well as markets. During the first machine age in the 19th century, it took decades of upheaval to enact the social reforms that enabled whole societies to benefit from automation. Today Mr Macron is not even trying to formulate policy, just to say the unmentionable in order to nudge the debate forward before technology gets there first. The party may not like him for it, but polls suggest the French do. Britain's Mr Corbyn makes France's Mr Hollande look improbably modern. But Mr Macron is showing up most of the Socialist leadership for what it still remains: unforgivably passé. ■

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The Labour Party conference

End of the peer show

BRIGHTON

Britain's opposition is raring to go—but where?

"THIS is a split party but the policy is to paper over the cracks," was how one party grandee summed up the Labour conference in Brighton. Considering the extent of Labour's election loss in May, the mood was surprisingly buoyant. Many moderates, including a majority of Labour MPs, are opposed to their far-left new leader, Jeremy Corbyn, who was chosen by 59% of the party's electorate. But for now he is toning down his differences with them. And party members are giving him a honeymoon, as they showed in their ecstatic response to his pedestrian first speech as leader on September 29th (see Bagehot). The only question is how brief it will be.

The delegates for this year's conference were chosen mostly before the party was hit by the political earthquake of Mr Corbyn's leadership win. So it is hard to assess the mood of the 160,000 new members who have joined since May, still less the 50,000 added since he became leader (Labour now has more members than all other parties put together). But there was no mistaking the newfound enthusiasm of even longer-term members around the conference hall. Many said they felt they had lost their party over the past two decades but had now found it again.

The obvious echo was of the 1980s (it turned out that some of Mr Corbyn's speech was first written then, too) under Michael Foot, another far-left darling of Labour conferences. Not only were leftists more in evidence again, so also were trade union leaders. Mr Corbyn put rail renationalisation firmly back on the table, prompting many to ask why it was not done in 13 years of Labour rule after 1997. Indeed, a striking omission from Mr Corbyn's speech of thanks was any acknowledgment of this, the party's longest-ever period of government. He referred to neither Tony Blair nor Gordon Brown, the two most recent Labour prime ministers.

Another omission was new policy. Mr Corbyn and his team made much of fighting the Tories. One over-enthusiastic delegate even called for the fight to be waged at dinner parties. But the bigger reason why Mr Corbyn's speech was light on policy was his view that it should in future be based on democracy from the bottom up. He declared that new members wanted a new politics of engagement and involvement. He favours more reviews and debates before policies are adopted, including—to the horror of many MPs—a more powerful say for the annual conference. And on some issues he is happy for his front bench to agree to disagree.

Such tolerance of dissent may in part reflect Mr Corbyn's own record as a party rebel. Even now, he is in the curious position of disagreeing with much of Labour's platform, as well as with many in his shadow cabinet. In his speech he put forward the idea that leadership was about listening. This went down well with delegates even if it seems a chaotic way to run a party.

Worse, several tricky issues were studiously avoided. Mr Corbyn did not mention the budget deficit or May's election defeat. He made clear that he strongly opposes the renewal of Britain's Trident nuclear deterrent, but his attempt to table a debate on it failed. (This did not stop him saying that he would never fire nuclear weapons were he prime minister, to public criticism from shadow cabinet members.) He ducked the issue of expanding Britain's bombing campaign against Islamic State in Iraq into Syria, though the conference later voted that should be approved only with the backing of the UN Security Council. He said Mr Blair's Iraq war had been fought in defiance of the UN and on a false prospectus, but seemed to treat it almost as the mistake of another party. The fragility of Labour's unity behind a campaign to stay in the European Union in the forthcoming referendum was exposed when he failed to mention the EU at all in his speech.

Mr Corbyn tried to sum up his economic policy by saying that you do not have to take what you are given, adding that the Tories' austerity policy was an outdated and failed approach. His shadow chancellor, John McDonnell, an even more left-wing figure than Mr Corbyn, insisted that austerity was not an economic necessity, but a political choice. Yet although some continental Europeans have voted against austerity, it is harder to persuade Britons that today's fast-recovering economy, with record employment and a still-gaping budget deficit, is in the same camp.

Mr McDonnell said he would cut the deficit through dynamic growth and a crackdown on tax evasion by companies, choosing to name Starbucks, Vodafone, ▸▸

Amazon and Google. He touted the expertise of his new team of economic advisers, which includes Joseph Stiglitz, Thomas Piketty and Mariana Mazzucato. He talked up the idea of a national investment bank and an entrepreneurial state, and promised a review of the Treasury and of the mandate of the Bank of England. This was all redolent not so much of the 1980s as of the 1970s—when Labour eventually had to borrow money from the IMF.

Mr McDonnell appealed to Labour moderates who have refused to serve under Mr Corbyn to return. A few sensibles like Hilary Benn, the shadow foreign secretary, and Lord Falconer, the shadow justice secretary, have decided that the best way to check the left is to stay in the shadow cabinet, but most will stay out. Several in Brighton openly speculated about how and when they might stage a coup against Mr Corbyn, whom they see as unelectable. But Labour is bad at dumping leaders, even if they look like losing. For now at least, Mr Corbyn is enjoying himself too much to think of leaving before the 2020 election.

His real problem is not that he is a poor speaker and an unconvincing leader, though he is both. It is that he preaches only to the converted within the party. This is similar to but even worse than the losing strategy pursued by his predecessor, Ed Miliband. It is no surprise that Mr Corbyn's rating should be lower than any previous new Labour leader's. The party needs a huge 10% swing in England and an even bigger rebound in Scotland to be competitive in 2020. Neither seems remotely likely.

The sun was shining all week in Brighton. But it may have been more warming for the Conservatives. Under Mr Corbyn Labour will surely remain in disarray. His lack of enthusiasm for Europe may make it harder for David Cameron to win his EU referendum; and Labour's unelectability may embolden Tory rebels. Yet, after this conference, most Conservatives will feel pretty comfortable with their lot. ■

Railways

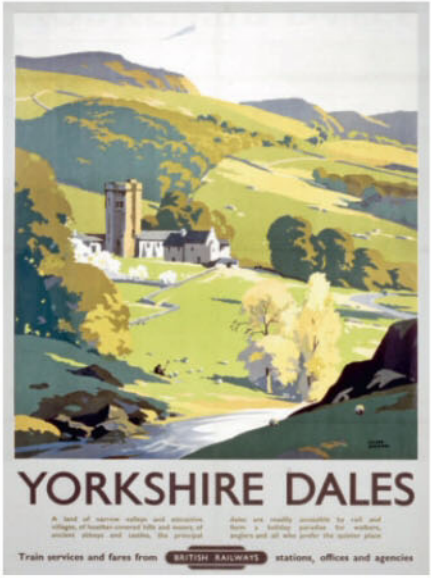
Gravy trains

Why Labour's plans to renationalise the railways are so popular

FEW topics get Britons as hot under the collar as the state of the country's railways. When trains are delayed—at the slightest hint of snow, or when leaves fall on the track—passengers fire off furious letters and tweets. Pictures of commuters vaulting over ticket barriers or standing in overcrowded carriages fill the newspapers. According to polls by YouGov, more than half of Britons would like the government to take the railways back under state control. This makes Labour's plan for a publicly run "People's Railway", affirmed at its conference this week, a popular policy as well as a radical one.

By some measures Britain's railways are booming. Since the network was privatised in 1994, the number of train journeys taken each year has doubled (see chart). The growth in passenger-kilometres travelled has been among the fastest in the European Union. But the service has become far more expensive, with rail fares now 24% higher in real terms than in 1995. And as well as being pricey, the service is often uncomfortable: 22% of passengers commuting into London and 16% of those travelling into Manchester have to stand.

This partly explains why so many people want an overhaul of the way the railways are run. But passenger frustration also reflects the fact that privatisation was rushed through and in many ways flawed.

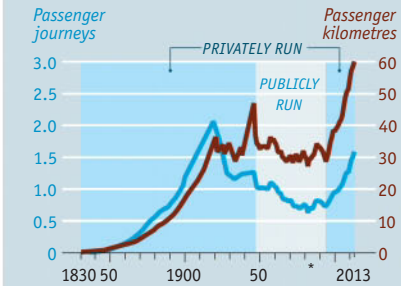


God's own county, Satan's own railway

When British Rail, the monolithic state operator, was broken up in the 1990s the government stringently followed a European directive to separate the tracks from the trains. The idea was to boost competition by ensuring that different train operators could whizz up and down the same stretches of track. But in some circumstances this led to inefficiencies, with employees of privately run train companies doubling up against those from Network Rail, the state-owned company which controls all 20,000 miles (32,000km) of track.

Standing room only

Britain, national railways, billion



Source: Department for Transport

*Financial years beginning April from 1984

Investment has risen since privatisation, but so has government subsidy, which adds up to around £4 billion ($6 billion) a year. According to a report published in 2011, costs per passenger-kilometre have hardly improved since 1996. And Network Rail is in disarray. The company, which was brought on to the government balance-sheet in 2014 with £34 billion of debt, is due to publish three reports over the next six months looking at how it can be restructured. In April Sir Peter Hendy, the then-head of Transport for London who has since become chairman of Network Rail, described some commuter services as "like the Wild West", adding that "They are shit, awful."

But there is no reason to think that a nationalised rail network would work any better than it did the last time. Although it could make fares simpler than the patchwork currently on offer, it is unlikely to make them much lower, says Christian Wolmar, a railway expert. Unless the railways' strike-prone unions are tackled, inefficiencies such as overemployment will remain. Nationalising franchises as they expired would also take a painfully long time: only around one-third would be in state control by 2025, unless the government was prepared to buy operators out mid-contract. In the meantime, with no prospect of renewing their franchises, companies would halt investment.

Some suggest that the railways' main problem lies not with the train companies but with Network Rail. Dieter Helm, an economist at Oxford University, has proposed breaking up Network Rail along regional lines and creating a "system operator" to oversee investment and planning. Others advocate allowing the state to bid for franchises or even letting community groups of trainspotters run routes that are otherwise unviable. Either way, unless the Conservative government gets the railways back on track it may lose the votes of weary commuters. ■

Bagehot | Hi-de-Hi with Jeremy Corbyn

The Labour Party's new leader is on a mission: to show his supporters a lovely time

HOW they cheered, the Home Counties arts students and sociology lecturers, as Jeremy Corbyn rattled through the old left's greatest hits. Ban the bomb, bash the banks, yah boo to the Tories…one more time for the cheap seats at the back! In his speech to its conference in Brighton, the Labour Party's new leader denounced the unjust and the nasty. He exalted the good and the decent. He joked impishly about silly newspaper attacks (one had accused him of being a Maoist for riding a bicycle, another of endorsing an apocalyptic asteroid strike) and rolled his eyes at the commentariat. Labour's left was having fun by the sea and Mr Corbyn was its compère, tour manager and rep. He was there to guarantee his base—excruciatingly well intentioned, adorably naive and irredeemably middle-class—a jolly good time. Britain's most sanctimonious holiday camp had just materialised on the sunny Sussex coast.

To be fair, Labour's leader (until his election on September 12th an outsider as one of the most left-wing MPs in Westminster) correctly identified several things badly wrong about the country. His best line—"You don't have to take what you're given"—was no less resonant for having been borrowed from a former party adviser who had suggested it to five Labour leaders before him. Housing in Britain is impossibly expensive, life for those on the average income and in self-employment too precarious, mental health too low a public-policy priority. Yet beyond his brief nods to those subjects Mr Corbyn gave Britons outside the hall only platitudes; no reflection on how they live their lives, what they care about or what they want from the state. Of Labour's prospects of forming a government and the hours and sweat that this would levy there came no mention. The party's new leader offered no struggle more onerous than self-gratification.

It was tempting to forgive him his sloppy speech. As his supporters noted, Mr Corbyn is new to his job and has never pretended to be a great orator. Eyes atwinkle and tie askew, he lurched from subject to subject and back again, traced no overarching argument and used almost no enlivening examples or colour. Watching this monotonous, laboured display Bagehot would not have been surprised to be told that Labour's leader was seeing the text for the first time. He hammered away at it like Stakhanov at a coal seam, mangled a few lines and at one point appeared to read out a stage direction by accident ("Strong message here!" he proclaimed before a passage on student numbers).

But successful oratory is more discipline than gift; speeches can be crafted, learned and practised. In his diaries Alastair Campbell describes the desk at which Tony Blair, his then-boss, worked on his first conference address as party leader in 1994: "A mass of papers, earlier discarded drafts, papers with his own handwriting, lines straight through it, rejected even before it became a draft." By contrast Mr Corbyn offered a potpourri of applause lines apparently plucked from press releases and blended at random. His performance betrayed no rehearsal—no bother. That is not "un-spun", as the Labour leader's cheerleaders gush. It is lazy. It is a waste of one of a new opposition leader's few opportunities to make a good impression on the average voter.

Does Mr Corbyn even want to do that? For most conspicuous in the speech was the absence of even a tangential nod to the fact that Labour crumbled at the general election in May, or that without winning the next one in 2020 it will change almost nothing about Britain for over a decade. In the spaces where such acknowledgments should have been there sprawled repeated calls for debate, for participation, for opening up, for a bottom-up party with fizz and ideas and democracy. All of which would have been laudable, had it borne any substantive connection to the party's ability to win power or deploy those ideas in government. At best the omissions turn Labour into a glorified pressure group; a less sexy version of online campaigning platforms like 38 Degrees and Change.org. At worst they render the party a debating society, there only to make Mr Corbyn's happy campers feel even better about themselves.

Trump-on-sea

This is part of a bigger story. In his book "Ruling the Void", Peter Mair, a political scientist who died in 2011, attributed the recent decline of mainstream Western parties and the associated paroxysms of populism to the fragmentation of old, monolithic social groups and classes. When large numbers identify as a mass, they can be rallied around a shared interest (the industrial proletariat around a programme of redistribution, for example). But when people live individualistic and esoteric lives, as most do today, political partisans can win only by vaunting their non-partisan credentials; that is, their skill as technocrats and administrators. So politicians mainly fall into one of two categories: the sensible but bland and the outspoken but unelectable; those who hail "security" and those who bang on about being "straight-talking". The former are in politics to win and exercise power, the latter to speak primary-coloured truths and create—as Labour's leader said of young people—"the space for their fizz to explode into the joy we want". In other words: by picking Mr Corbyn, Britain's main opposition party has quit the ranks of Merkels, Blairs and Camerons to join the Trumps, Grillos and Farages.

As Bagehot left Brighton his mind turned to the months ahead. Labour's moderates are already plotting Mr Corbyn's defenestration. One of the few heartening aspects of the conference was the reconciliation, lubricated by adversity, of different parts of its moderate wing—from the socially conservative "Old Right" to the liberal Blairites. Eventually the party's leader will fall and will be replaced, probably by one of the sensibles. But until that happens it is taking a long, luxurious holiday from the chill winds of electoral reality. If Britain did not need a serious, credible Labour Party it would all be such fun. ■

Climate change

It's getting hotter

NEW YORK

At climate talks in Paris later this year, negotiators should ponder the damage already done

SAVING the planet is now a matter of a few clicks—at least on a small scale. On September 22nd the UN's Climate Change Secretariat launched Climate Neutral Now, a website that estimates an individual's carbon footprint based on whereabouts, recycling habits, energy use and so on. Offsetting any resulting guilt is easy: the site takes donations to fund clean development projects. Your correspondent paid $24 to a facility capturing methane from pig dung to cover the carbon-dioxide emissions she had caused during the past year.

The initiative is one of many intended to spur action on greenhouse-gas emissions in the run-up to climate talks in Paris at the end of the year. Some seem quite successful: in recent weeks around 2,000 individuals and 400 organisations have committed to stop investing in firms that produce fossil fuels. More important, countries have responded to a shift in climate-change policy after the failure of negotiations in Copenhagen in 2009: rather than trying to agree on mandatory emissions reductions, they were asked to say by October 1st what they were willing to do.

America's Clean Power Plan, announced in August, could reduce carbon-dioxide emissions from power stations by 870m tonnes by 2030—a cut of almost a third from 2005 levels and the equivalent of taking 166m cars off the road. China has promised that its emissions will peak in 2030, if not before. And on September 25th Xi Jinping, the country's president, announced that China would launch a national carbon-trading scheme in 2017 (see page 46). A few days later Brazil pledged to cut greenhouse-gas emissions by 43% by 2030 compared with levels in 2005.

On closer scrutiny, though, some of the pledges look less impressive. America is already most of the way to reaching its new target; China will see carbon emissions fall anyway as its economy continues to shift from manufacturing to services. And when negotiators meet in Paris, they need to keep in mind that the world is already suffering from the effects of global warming. Global carbon emissions were 58% higher in 2012 than they were in 1990. The atmospheric concentration of carbon dioxide has risen from just under 340 parts per million in 1980 to 400 today (see chart on next page).

To stand a fair chance of keeping warming to just 2°C by the end of the century—the de-facto goal of global climate policy—the stock of atmospheric carbon dioxide must be kept under 1 trillion tonnes. Estimates vary but, according to the Intergovernmental Panel on Climate Change, the total had hit 515 billion tonnes by 2011. Climate Interactive, a research outfit, reckons that if emissions continue on their present course around 140 billion tonnes of greenhouse gases will be released each year and temperatures could rise by 4.5°C by 2100. And even if countries fully honour their recent pledges, temperatures may still increase by 3.5°C by then.

The world is already 0.75°C warmer than before the Industrial Revolution. A recent study published in *Science* suggests that a much-debated hiatus in global warming between 1998 and 2012 in fact never happened: the cooler readings were caused by a switch to measuring ocean temperatures from buoys rather than ships. Another study, published in *Climatic Change*, another journal, finds that the statistical tools used to demonstrate the apparent slowdown were not up to the task. And though the science linking weather events to long-term climate change is still tentative, some researchers see the effects of climate change in the fact that July 2015 was the warmest month globally since records began. The year is likely to break records, too. This summer 47,000 people went to hospital after unusually hot days in Japan, and more than 1,000 died in both Pakistan and India during heatwaves.

Boiling the oceans

The oceans are absorbing almost all the heat added to the climate system. Summer sea-ice cover in the Arctic has declined more than 40% over the past four decades as a result. Walruses used to rest and feed on the ice; now they often do so onshore. Over 35,000 gathered recently near Point Lay in Alaska (pictured above).

Melting glacier ice, and the fact that warmer water has a larger volume, mean higher sea levels: they have already risen by roughly 20cm since 1880 and could rise another metre by 2100. That is perilous for low-lying islands and flat countries: the government of Kiribati, a cluster of tropical islands, has bought land in Fiji to move residents to in case of flooding. Giza Gaspar Martins, a diplomat from Angola who leads the world's poorest countries in the climate talks, points out that they are particularly vulnerable to the effects of a warming planet. Money alone, he argues, ▸▸

will not fix their problems. Without steps to reduce emissions, he predicts, "there will be nothing left to adapt for."

Fresh water is less dense than salt water, meaning that melting ice sheets also disrupt oceanic circulation patterns. The impact on the Atlantic's meridional overturning circulation, which drives cold saltwater into the deep ocean while drawing warm water northward, may make Europe's climate cooler. Changing ocean currents also seem to be shifting jet streams and altering storm patterns. Some blame the severity of California's drought on an unusual ridge of high atmospheric pressure off its coast which appears to block winter storms from reaching the state.

For every 0.6°C rise in temperature, the atmosphere's capacity to hold water grows by 4%, meaning storms will pour forth with greater abandon. The rains of the Indian monsoon could therefore intensify, cutting yields of cereals and pulses. Elsewhere unusual deluges are already disrupting daily life: more than 170 extreme-weather events struck America between 1980 and 2014. Winter storms are more frequent and intense now than at any time in the past six decades.

Climate change seems also to be making dry places drier, killing crops and turning forests into kindling. Forest fires in Indonesia, more likely thanks to the current El Niño weather phenomenon, could release 2 billion tonnes of carbon dioxide, about 5% of annual emissions due to human activity, says Simon Lewis of University College London. In recent months fires have swallowed more than 2.4m hectares of American forests. Alaska suffered 80% of the damage—a particular problem because the soot released in these blazes darkens the ice, making it less able to reflect solar radiation away from the Earth.

Developments in the Arctic are worrying for other reasons, too. The region is warming twice as fast as the rest of the world, a trend that could start a vicious cycle. Around 1,700 gigatonnes of carbon are held in permafrost soils as frozen organic matter. If they thaw, vast amounts of methane, which is 25 times more powerful as a global-warming gas than carbon dioxide when measured over a century, will be released. One hypothesis suggests that self-reinforcing feedback between permafrost emissions and Arctic warming caused disaster before: 55m years ago temperatures jumped by 5°C in a few thousand years.

In a recent paper in *Nature Climate Change* researchers from Cambridge University and the University of Colorado use standard environmental models to estimate the economic impact of carbon dioxide and methane being released from permafrost. By 2200, when these emissions are expected to peak, the cost could be 0.7% of global GDP—albeit with a very high level of uncertainty. And on September 29th Mark Carney, the governor of the Bank of England, warned that though measures to avoid catastrophic climate change are essential, not least for long-term financial stability, in the shorter term they could cause investors huge losses by making reserves of oil, coal and gas "literally unburnable".

But there is no agreement on who should pay the bill for reducing emissions, whatever it turns out to be. Arguments already rage over how to find $100 billion annually for a climate fund from 2020 to compensate poor countries, which did little to cause global warming. Action is needed immediately, says Christiana Figueres, a Costa Rican diplomat who is overseeing the Paris talks. "We are not treading lightly enough on the planet." ■

Short-lived climate pollutants

Low-hanging dirt

Cutting emissions of methane and soot could bring swift benefits

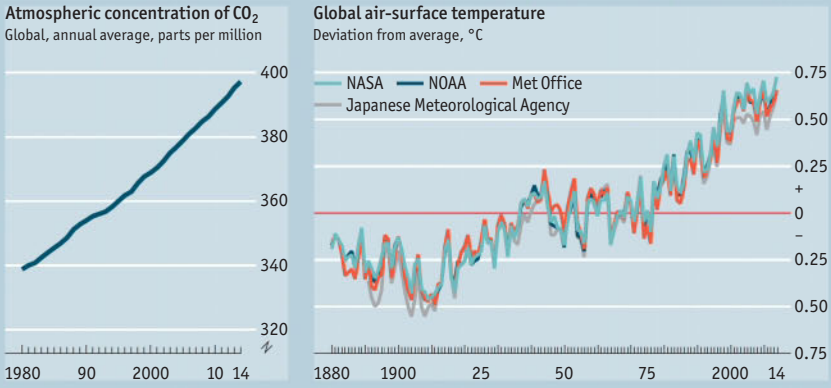
"IT'S like trying to slow down a supertanker." This is how Durwood Zaelke of the Institute for Governance and Sustainable Development, a think-tank, describes efforts to limit the amount of carbon dioxide in the atmosphere by ensuring that less is released or, as with reforestation programmes, more is absorbed. But the carbon dioxide already emitted will continue to warm the planet: it lingers for around 500 years. By contrast methane and other short-lived pollutants, including hydrofluorocarbons (HFCs) and black carbon (soot), disappear much faster, so curbing them brings more immediate benefits.

Carbon dioxide is the second-most-plentiful greenhouse gas (after water vapour), but short-lived pollutants are catching up. In 2013 methane, a powerful heat-trapping gas, accounted for 10% of greenhouse-gas emissions caused by human activity in America. Emissions of HFCs, another class of greenhouse gases used as coolants in fridges, are increasing at about 8% annually—twice as fast as those of carbon dioxide. Soot, the most heat-absorbing component of particulate matter, increasingly peppers landscapes after escaping from diesel vehicles, wood-burning stoves and wildfires.

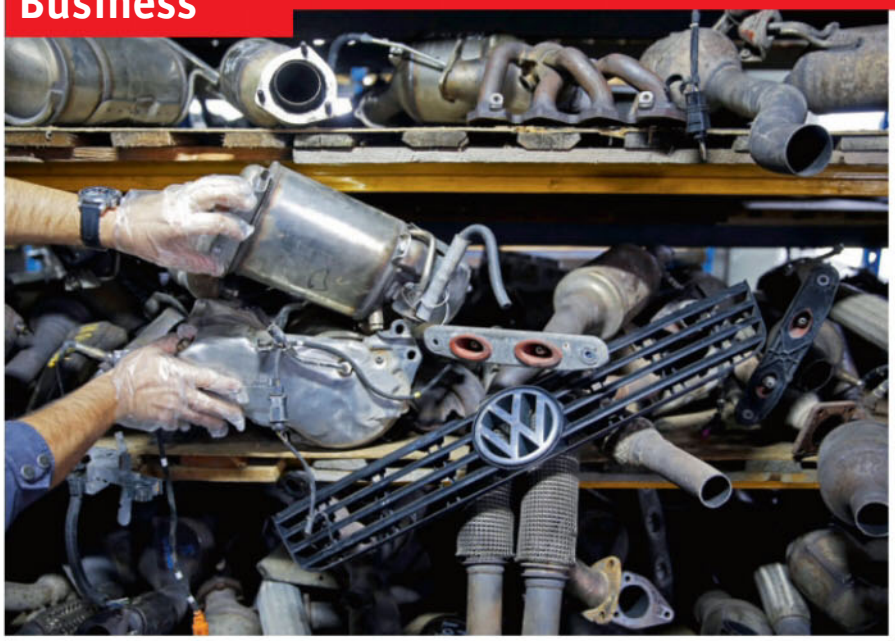
Happily, reducing these pollutants is comparatively simple. If leaks from gas pipes, coal mines and fracking facilities were eliminated, methane emissions would fall by almost a third. Improving drainage from paddy fields could help, too. Earlier this year America's Environmental Protection Agency announced new rules to cut methane released by oil and gas wells. HFCs are likely to be banned in November under an extension of the Montreal protocol, the agreement in 1987 which originally prompted their use as a replacement for ozone-depleting substances. Taking old cars off the road, and giving people in developing countries better stoves and cooking fuels, would cut down on soot.

Such measures are cheap and politically easy compared with reducing carbon emissions. According to the Arctic Monitoring and Assessment Programme, an intergovernmental forum, cutting the emission of short-lived pollutants could shave 0.2°C off expected global warming over the next 35 years. And millions of people would benefit from cleaner air. But on their own such steps are nothing like enough, says Helena Molin Valdés of the UN's Climate and Clean Air Coalition. The pace of global warming will slacken only if both lingering and short-lived pollutants are tackled.

Spot the hiatus



Sources: National agencies



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Carmakers after the VW scandal

Good in parts

Volkswagen's emissions scandal strengthens the arguments for motor-industry consolidation. But deals will be hard to achieve

MODERN cars are packed with safety features designed to withstand horrifying pile-ups. The emissions-cheating scandal at Volkswagen (VW) will show whether carmakers are similarly resilient. VW's finances and reputation will certainly suffer after its attempts to fool American regulators about the levels of nitrogen oxides (NOx) emitted by its diesel cars. But the effects will also be felt by an industry that was already facing huge costs to keep up with ever-tougher rules on emissions and fuel efficiency, while suffering from chronic overcapacity and poor returns.

The extent of VW's cheating is becoming clearer, as is the mounting bill for the damage. On top of the costs of fixing the 11m cars affected, for which the firm has set aside €6.5 billion ($7.3 billion), VW may be fined billions of dollars in America and suffer a grave blow to its business there. Lawyers are preparing class-action suits. Some executives may face prosecution. That adds up to a daunting in-tray for the new boss, Matthias Müller, who has replaced Martin Winterkorn.

However, the scandal will also mean big repair bills for VW's rivals. One ramification is that rules are likely to be tightened around the world to ensure that emissions on the road more closely match those recorded in tests, for petrol as well as diesel engines. This will be felt most acutely in Europe. Half of all cars sold there are diesels, which despite their problem with NOx emissions are economical on fuel—and so on emissions of carbon dioxide (CO_2). They play a vital part in meeting the current standard requiring new cars on average to emit no more than 130g of CO_2 per kilometre. If sales of diesels now plunge, meeting the 95g/km standard that goes into force in 2021 will be hugely costly.

This blow has landed just as the industry has been hit by a sudden slowdown in China, the world's largest market for new cars. Sales fell for the third month in a row in August, prompting the government on September 29th to cut sales tax on small cars and introduce other measures to try to revive the market. Two other previously booming markets, Russia and Brazil, are in hard reverse. American sales, though at a ten-year high, are not expected to grow much further, and Europe's revival is proving painfully slow.

New production lines in China, commissioned while its market was booming, will continue to come online, adding to overcapacity both at home and abroad. That will be especially true if the government starts exhorting the joint ventures between Chinese and foreign firms to export foreign-badged cars in quantity. The launch of Tesla's Model X, an electric SUV, this week was a reminder that new firms, including Google and Apple, have plans to enter the carmaking business and shake it to its foundations. For an industry that has rarely returned its cost of capital over the years, the future looks gloomy.

Mass-market carmakers' combined capital spending and R&D costs have grown by an average of 12% annually over the past five years. Even before the VW scandal, they faced further investments to meet the 2021 emissions standards for CO_2. If they can no longer rely on diesel cars—the lower-carbon end of their fleet—as part of the mix, they will have to invest even more in cleaner petrol engines, and electric and hybrid drivetrains. Add the investments needed in areas such as connecting cars to the internet and driverless technology, and the bill will be astronomical.

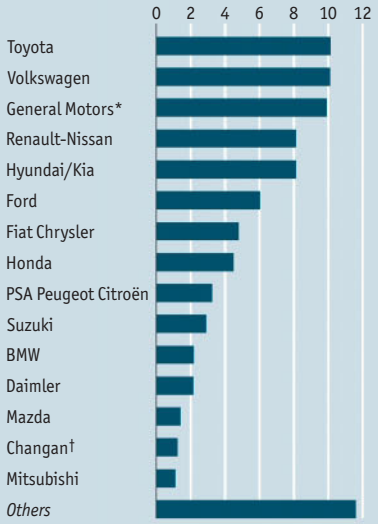
Meanwhile, the industry continues to burn through capital. The value destruction was laid out by Sergio Marchionne, CEO of Fiat Chrysler, in April in a presentation entitled "Confessions of a Capital Junkie". He berated his industry for the huge costs of developing new models. He calculates that up to half the cost goes on developing proprietary technologies "undiscernible" to customers; and questioned why each carmaker needed separate development programmes for fuel-saving innovations such as three-cylinder engines and eight-speed gearboxes.

That there are smaller but still decently profitable firms such as BMW and Subaru suggests that mergers may not be the only path to higher margins. But it is hard to find anyone in the industry who disagrees with Mr Marchionne's analysis. Far fewer accept his cure—consolidation. The confession was partly self-serving. Fiat Chrysler (whose chairman, John Elkann, sits on the board of *The Economist*'s parent company) is itself the product of a recent merger. Now its boss has a bigger deal in his sights, a merger with General Motors to create a behemoth turning out 15m vehicles a year. GM has rebuffed his advances.

In theory consolidation should help, by ▸▸

Traffic jam

Global light-vehicle production, 2014, m



Source: IHS Automotive

*Includes SAIC-GM-Wuling
†Excludes joint ventures with foreign firms

cutting duplication of development costs, eliminating excess production capacity, using scale to squeeze better deals from suppliers and culling layers of overlapping management. The industry is still too fragmented (see chart). But the chances of a successful merger wave seem as remote as ever, for three reasons.

First, most car bosses insist they can make enough savings with their current plans, such as reducing the number of "platforms" (basic underpinnings) that their model ranges are built on. Hopes are pinned on loose alliances, in which firms stay independent but pool development costs. But Andrew Bergbaum of AlixPartners, a consulting firm, says that although such alliances work well for specific projects such as developing high-efficiency gearboxes, they are ill-suited to more "all-encompassing" technologies such as connectivity and autonomous driving.

Second, the modern history of car mergers has often ended in disaster: just think of Daimler's marriage with Chrysler, BMW's purchase of Rover, and Ford's attempts to roll together Volvo, Jaguar, Land Rover and Aston Martin. Carmakers have distinct internal cultures, and welding them together is hard. The success so far of Fiat Chrysler is largely a result of its constituent parts operating in different regions—Fiat mainly in Europe and Brazil, Chrysler in America—and thus avoiding conflict. The same could be said of Renault and Nissan, which have been in alliance since 1999. A Japanese firm with a large American operation and a European carmaker shared a senior-management team but not much else until recently, when the two started to become more integrated. Remaining at arm's length for so long has limited the scope for cost savings.

A successful mega-merger should come with the opportunity to cut capacity and costs. But the third reason for scepticism is that governments, unions and big shareholders stand in the way. France's government retains stakes in both Renault and PSA Peugeot Citroën, and has willingly bailed out both in the recent past. Sanford C. Bernstein, a research firm, points out that BMW, Fiat, Ford, Honda, Tata, VW and others have strong ties with founding families. In some cases they have blocking shareholdings, and little interest in either selling up or improving returns if that means drastic job cuts.

Even if a giant merger were agreed, it would take years for the cost savings to begin to overtake the integration costs. And size may bring its own problems. VW's are partly attributable to its dash for scale. American regulators will fine it heavily, just as they have done the other two members of the "10m vehicles a year" club—GM, for tolerating faulty ignition switches, and Toyota for "unintended acceleration" problems. The unpalatable conclusion is that carmakers need to get bigger to escape trouble, and that trouble comes to those that get bigger. ■

Car loans

Warning light

Carmakers borrow heavily to finance sales, making them vulnerable

VOLKSWAGEN doesn't just make cars. Its enormous lending arm also helps customers to pay for them. With €164 billion ($184 billion) of assets, this is a big business for Germany's national champion. Others do it too: in all, the finance arms of the world's top ten carmakers have almost $900 billion of assets on their books. Four firms—VW, BMW, Daimler and Renault—account for half of the $350 billion of debt on the consolidated balance-sheets of carmakers that needs to be refinanced this year. All four of these diesel-focused European carmakers have seen the cost of insuring their debt against default rise sharply since VW's misdeeds were made public earlier this month.

Loans to motorists are fairly short-term, and cars can be repossessed if drivers stop making payments. So this is a relatively low-risk form of lending. But the carmakers are highly dependent on using finance deals to drive sales—VW financed a quarter of the 10m or so vehicles it delivered worldwide last year.

The risk now is that worries about the cost of cleaning up the emissions scandal trigger a cash squeeze. VW is most at risk. It has €67 billion of existing debt due over the next 12 months. On top of that it will need another €25 billion to continue financing its sales and keep up with Toyota and GM as one of the top three carmakers. It has €33 billion of cash in hand. VW will also receive €47 billion from car-loan repayments this year, and perhaps €20 billion of cash generated by its carmaking business. In the absence of any penalties, compensation or recall costs, things would be fine. But as the investigations and lawsuits multiply, the risk of a significant financing gap is growing. If emissions fraud is detected at other firms, lenders may balk at refinancing the vast sums that the four biggest European carmakers will need this year.

One bad sign would be if investors were to stop buying securitised car loans. In America each year, carmakers and others package up about $100 billion of loans and sell them to other investors. If fixing diesel cars' emissions of nitrogen oxides makes them less fuel-efficient, as is feared, their second-hand value, and thus their worth as collateral, will suffer, possibly spooking investors. If carmakers can no longer finance their sales this way, they would have to load their balance-sheets with more debt.

VW's cost base is designed around the economies that come from producing 10m vehicles a year. If a financing squeeze means it cannot finance the sales of a million or two of those, its situation could turn ugly. Other carmakers that have not been implicated in the scandal may nevertheless suffer from a general squeeze on car loans, just as they may suffer from tighter enforcement of emissions rules. For financially weak firms like PSA Peugeot Citroën—40% of whose sales are diesels—this could be a big blow.

Pumped up

US car loans, $bn

Sources: Federal Reserve; SIFMA

Oil companies in the Arctic

A rig too far

HOUSTON

Shell's retreat from the frozen north shows the new realities of "big oil"

OIL companies have a proud history of digging holes in inaccessible places and producing gushers of money. But in the Chukchi Sea, in the Alaskan Arctic, Shell has poured $7 billion into a single 6,800-foot exploratory well, making it possibly the most expensive hole yet drilled, only to admit this week that it had not found enough oil and gas to make further exploration worthwhile.

That was a big climbdown for a company that had spent seven years since acquiring the Chukchi licenses in 2008 in a highly public, drawn-out battle to drill in the Arctic. The decision boiled down to costs, financial and reputational. Most big oil firms face similar pressures. Some will take a lesson from Shell and put their Arctic plans on hold, though Eni, a big Italian oil firm, is vowing to press ahead with its efforts to drill in the Norwegian Arctic.

As the oil price has fallen by more than half over the past year, the economics of drilling in deep and treacherous waters have worsened considerably. Though Shell had sought to play down the dangers of its Chukchi conquest, observers long ago reckoned it had bitten off more than it could chew. It suffered a slew of mishaps in 2012, culminating on December 31st of that year in a drilling rig breaking loose from its tow lines and running aground.

After that episode, Ben van Beurden, installed as Shell's chief executive in 2014, could have halted the ill-fated project. But after a "personal journey", he decided to go ahead. Since then, Shell has portrayed Arctic drilling as somewhat of a mission, saying the prospective hydrocarbon reserves—ten times the total produced so far in the North Sea—are needed to provide energy for a global population expected to rise from 7 billion to 9 billion by 2050.

Analysts say it was more about shoring up Shell's reserve base, at a time when oil and gas deposits are increasingly held either by national oil companies or by nimble American "frackers". Last year Shell replaced only 26% of the 1.2 billion barrels of oil equivalent (boe) that it produced. It has told investors that the Arctic was the best long-term bet for filling that gap, expecting it to provide at least 500m boe after 15 years. Now it will need new alternatives. If its £47 billion ($70 billion) takeover of BG Group, a British firm, goes ahead, that is one: it will increase Shell's oil and gas reserves by a quarter.

Reputation was another factor in Shell's retreat. A company that was among the first oil majors to acknowledge the risk of human-induced global warming in the 1990s—and one that has joined with other European oil firms to advocate carbon pricing ahead of the climate-change talks in Paris later this year—was embarrassed to be pilloried for its Arctic drilling by environmental groups and politicians. Just as serious were the concerns of Shell's own shareholders. Many of these, including some big pension funds, questioned its climate-change credentials at its annual meeting in May.

The stockmarket is taking the news in its stride. But internally, the abandonment of the Arctic project will lead to soul-searching. Shell is staffed more by boffins than roughnecks, who pride themselves on their ability to overcome great challenges with technology. It has been in this predicament before. In the early 1990s it gave up an earlier attempt to explore in the Chukchi Sea after prices tumbled. Its decision to do so again, and big cutbacks by rival oil firms, may help crude prices eventually to recover. But if one day Arctic oil and gas look promising once more, don't expect much enthusiasm from Shell. ■

Putting the Chukchi Sea on ice, again

Mexico's oilfield auction

Lessons learned

MEXICO CITY

A better outcome, this time

THE auctioning of blocks of oil and gas fields, both onshore and in the Gulf of Mexico, is designed to bring foreign investment into Mexico's decrepit energy industry as part of President Enrique Peña Nieto's flagship reforms. The first of the "Round One" auctions, which took place in July, was a flop, with only two of the 14 blocks finding buyers. But the second, on September 30th, went a lot better.

Three of the five shallow-water production blocks on offer were awarded, thanks to bids far above the government's stated minimums. Nine of the 14 companies and consortia that had qualified put in bids, which was also an improvement on last time. The two biggest, Shell and Chevron, stayed away, but that Eni of Italy was awarded the first block was a welcome sign of faith from one of the world's energy majors.

Changes to the contracts and to the running of the auction showed how the state bodies involved had learned from earlier missteps. The government said in advance what minimum share of a field's production it expected successful bidders to agree to give it, rather than revealing this after the auction. Last time, bids for three blocks were rejected for being only a few percentage points below what the government wanted. The $6 billion guarantee that companies had been required to put up was cut, and further clarification was provided of the circumstances under which the regulator, the National Hydrocarbons Commission, could rescind a contract.

Competition would have been fiercer if oil prices were not so weak, and in this the energy ministry has been unfortunate in its timing. "Everyone was interested" during the international road shows that preceded the auctions, says David Shields, the editor of *Energía a Debate*, a Mexican industry magazine. "Then prices collapsed." Many oil companies now lack the cashflow to make such investments. Eni apart, the oil majors may also be waiting for the deep-water blocks that Mexico is due to auction next year.

That the government is showing such flexibility in tailoring its auctions to the realities of the oil market is nonetheless encouraging. In a country where resource nationalism has long been rampant, and where the 77-year monopoly of Pemex, the state oil firm, ended only this year, that is achievement enough.

Foreign takeovers in Australia

Selling the farm

SYDNEY

The prospect of foreign ownership of two giant agri-businesses causes alarm

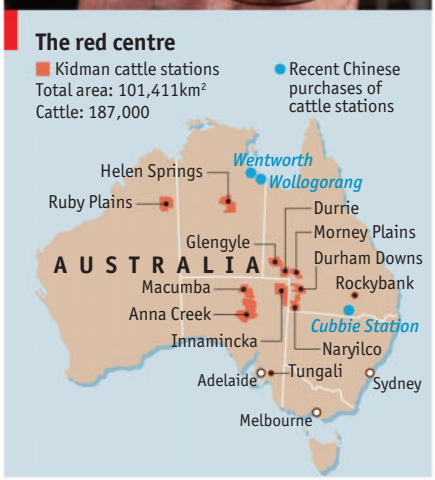
THE bare expanse of Anna Creek cattle station (as Australians call ranches) belies its strategic attraction to investors. Straddling the river plains of the state of South Australia, and reputed to be the world's biggest cattle ranch by area, Anna Creek belongs to an empire of ten stations that Sidney Kidman, the "cattle king", started in 1899 (see map). Now, 116 years later, his descendants have put their inheritance on the market. The sale of S. Kidman & Co, due by the end of the year, has touched raw nerves over foreign investment, as Chinese and other overseas contenders circle a company that many Australians associate with their frontier heritage.

The interest of would-be buyers is understandable. The Kidman herd of almost 200,000 cattle sprawls across a swathe of the outback about three-quarters the size of England, making it Australia's biggest private landholding. Australia is the world's biggest beef exporter after India and Brazil. Rising demand from China and elsewhere in Asia, as Australia's currency falls in value, has helped business boom. Kidman could sell for around A$325m ($228m).

About half the 12 shortlisted bidders, whose identities have not been revealed, are foreign. Many may be Chinese. Doug Ferguson, a China expert at KPMG, a consulting firm, reckons that about 15 Chinese companies, some government-linked, would be capable of bidding for Kidman.

Australians are becoming more used to Chinese investment. Four years ago, China ranked ninth by stock of foreign direct investment (America, Britain and Japan, three of Australia's oldest trading partners, top the list). Now Australia's biggest trading partner, China's inward investment has taken off: by 2014 it had moved up to fifth place. Australia's Foreign Investment Review Board (FIRB) says China has become a bigger investor by value than any country, measured by its share of the A$170 billion of proposed investments it examined last year. In the 2013-14 fiscal year, property worth A$12 billion represented China's biggest investment in Australia.

Agricultural investments of all kinds, however, were just a fraction of that year's inflow: a mere A$32m. Chinese deals to buy farmland have been few and far between. Two years ago Shandong Ruyi, a Chinese textile company, bought most of Australia's biggest cotton farm, Cubbie Station in the state of Queensland. Tianma Bearing Group, another Chinese company, recently paid a reported A$47 million for Wollogorang and Wentworth, two cattle stations in the Northern Territory, where part of the Kidman empire is also located. Now the prospect of Kidman falling into Chinese hands has given extra piquancy to broader Australian anxieties about "selling the farm" to foreigners.



Such anxieties are nothing new. When Tony Abbott, the recently-ejected prime minister, led the conservative Liberal-National coalition to government in 2013, he declared that Australia was "open for business". But a few weeks later Joe Hockey, then the treasurer, rejected a bid by Archer Daniels Midland (ADM), an American food-commodities giant, to take over GrainCorp, an Australian counterpart. Mr Hockey said foreign acquisition of "this key Australian business" would be against the national interest. He was bowing to pressure from the rural-based National Party, the coalition's junior partner. Similar pressures could come into play over the Kidman sale. The agriculture minister, Barnaby Joyce, who is from the National Party, opposes a "foreign state-owned enterprise" taking over Kidman.

The ranch operator's sale could now be the first big test of Malcolm Turnbull, who deposed Mr Abbott as Liberal leader and prime minister on September 14th. Mr Turnbull is more of a free-market champion than his predecessor. He acknowledges Australia's "long history of ambivalence to foreign investment". But he identifies the country's key dilemma: "resource-rich but capital-poor". As soon as he took over as prime minister, there was speculation that ADM might make a fresh bid for full ownership of GrainCorp, of which it is already the largest shareholder.

However, Mr Turnbull is bound by tighter foreign-investment rules that the government introduced under Mr Abbott. They require the FIRB to scrutinise all sales to foreign entities of rural land worth A$15m or more—the limit was previously A$252 million. The new rules will apply to bidders from China, Japan and South Korea, with which Australia recently signed free-trade agreements. But bidders from places like America, New Zealand and Chile, whose free-trade deals pre-dated the changes, can buy land worth more than A$1 billion before they are screened.

Similar screening discrepancies will apply to bids for agri-businesses other than farms and ranches, such as GrainCorp. Critics charge that such a two-tier approach barely masks a quest to make life harder for investors from Asia. Peter Drysdale, an economist at the Australian National University, says it "does not make any policy sense". The FIRB only advises the government on foreign takeovers, but the very fact that a particular deal has fallen under the board's purview risks making it a political hot potato.

Soaring house prices in Sydney and Melbourne, Australia's two biggest cities, have added to politicians' nervousness about foreign money coming into the country. Without presenting evidence, some press pundits and radio "shock jocks" have blamed Chinese investors for forcing Australians out of the market. But non-resident foreign investors are banned from buying houses in Australia. New dwellings are excepted on the ground that such sales help expand the housing stock.

Some worry that the government risks scaring off foreign investors just when the country needs capital as its economy cools. Fears about foreign takeovers are exaggerated anyway. Australians still entirely own almost 99% of the country's farm businesses, and 90% of its agricultural land. Yet competition can only grow. Mr Ferguson reckons China's pursuit of food security will see a "bigger shift" in Chinese offshore farm investment. "The Chinese have constantly declared they're looking for very large-scale properties," he says. "Kidman is a classic example." ■

E-commerce in India

Snap, flip and crackle

MUMBAI

Flipkart and Snapdeal vie to be India's answer to Amazon and Alibaba

NARENDRA MODI, India's technophile prime minister, this week spent a good part of his visit to America, the second in a year, hobnobbing with Silicon Valley's great-and-good. India has long been a supplier of talent to America's tech firms. Its business-process outsourcing firms are a vital source of export earnings. But for years India has been an untapped market for consumer-facing technology firms. That is now changing. The rise of mobile-internet access has sparked interest in the potential of e-commerce in India. Bricks-and-mortar retailing is very fragmented. A trip to the mall can be an ordeal because of congested roads. In such difficult terrain, e-commerce may easily blossom.

Two home-grown outfits, Flipkart and Snapdeal, are vying to be the dominant player. Flipkart has the advantage of starting first. It was founded in 2007 by Sachin Bansal and Binny Bansal, two software engineers who had worked at Amazon. The head start gave Flipkart time to build its own distribution arm and to establish a good name for service. Flipkart pioneered a cash-on-delivery service for the majority of Indians who do not use payment cards.

Snapdeal began in 2010 as a seller of online coupons but a trip to China in 2011 prompted a switch in strategy. The founders, Kunal Bahl and Rohit Bansal, saw how Alibaba was thriving as a platform for online sales. Unlike Amazon or Flipkart, it had little capital tied up in stocks or warehouses. "If you own what you sell, you have limited range," says Mr Bahl. Starting a marketplace for buyers and sellers "allowed us to scale up quickly."

The downside of such a strategy is that bad service from a seller hurts Snapdeal's brand. But Mr Bahl says careful screening of merchants, plus shoppers' ratings, limit the danger. Low-rated sellers are soon starved of traffic. In some ways the two rivals' strategies are converging. Flipkart lets competing sellers use its platform. Snapdeal has invested in Gojavas, a logistics firm, to help with the last leg of deliveries. As online shopping becomes more popular, India's e-commerce battle may be decided by something as basic as whose app is the easiest and most enjoyable to use.

E-commerce is still tiny in India. Neither Flipkart nor Snapdeal is profitable. Even so, Flipkart was valued at $15 billion in May. Snapdeal was valued at $5 billion after a fresh round of capital-raising in August. Froth, say old-school retailers; most of India's 1.25 billion people do not even have access to the internet. Yet the share of its 900m mobile-phone users with a smartphone is growing fast, as handset prices fall. The cost of using such a phone is far cheaper in India than in most places, even if the service is often patchy.

Besides, a young population is likely to take more speedily to shopping by smartphone than places where stubby-fingered old-timers wield more of the spending power. Two years ago, mobile phones accounted for 5% of Snapdeal's sales, says Mr Bahl. The figure is now 75% and rising. No wonder Silicon Valley's tech gurus and venture capitalists are showing more interest in India. ■

Board games

Not twilight, but sunrise

Table-top games are booming in the video-game age

ESSEN is not one of Germany's better-known cities. But for the world's growing band of board-game devotees, it is paradise. Each October it plays host to Internationale Spieltage, or Spiel, a board-game convention that is half fan-club gathering, half trade show—and, alongside America's Gen Con, one of the biggest gaming festivals in the world.

This year the organisers expect more than 160,000 visits over the festival's four days. Attenders will be able to watch and play more than 850 board, card and role-playing games, including a much-anticipated board-game version of "Magic: The Gathering", a highly popular card game launched in 1993 in which players take on the role of duelling wizards. The whole thing will be capped off with the largest contest yet seen of "The Settlers of Catan", in which 1,000 people will compete to colonise a fictional wilderness.

The market for such "hobby games" is booming. ICV2, a consulting firm, reckons it is worth $880m a year in America and Canada alone. "We've seen double-digit annual growth for the past half-decade," says Milton Griepp, ICV2's boss. Some of the games at Spiel will be aimed at children, but grown-ups are doing most of the buying. There is something for every taste, from "Fluxx", a lighthearted card game whose rules change with every card played, to "Power Grid", a fiendishly tricky business game featuring aspiring electricity tycoons, to all-day chin-scratchers such as "Twilight Imperium" (pictured), a game of galactic civilisation-building.

Steve Buckmaster of Esdevium Games, a British distributor, says that far from diverting people, video games—especially ones on smartphones—have brought gaming to a larger audience. App versions of popular games often boost sales of their physical counterparts. The internet has helped fans organise get-togethers, tournaments and the like, while crowdfunding websites such as Kickstarter have made life easier for aspiring designers. They, in turn, are integrating computers into their games. "X-COM", a board-game tie-in to a popular video-game series, uses a smartphone app that takes the role of the incoming aliens which players must battle on the table top.

Meanwhile bricks-and-mortar game stores have adapted, running tournaments and providing the face-to-face sociability that online gaming lacks. And with "Game of Thrones" on TVs everywhere and cinemas packed with superhero films, the general triumph of what used to be mocked as "nerd culture" has made the fantasy and sci-fi themes featured in many games less of a turn-off. Not every analogue pastime is suffering in the digital age. ■

This galaxy ain't big enough for the five of us

Schumpeter | Capitalism and its discontents

Anti-capitalism is being fuelled not just by capitalism's vices but also by its virtues

DAVE SPART has been a stalwart of *Private Eye*, a British satirical magazine, since the 1970s. The bearded Bolshevik has never wavered in his enthusiasm for denouncing capitalism ("totally sickening"). But in recent years the *Eye*'s editors gave their fictional columnist progressively less space as the left made its peace with free markets and consumerism. Now, Mr Spart is back—not only on the pages of *Private Eye* but in the corridors of power. Britain's main opposition Labour Party this week held its first conference under a new, hard-left leader, Jeremy Corbyn. In Greece and Spain new left-wing parties have emerged. Greece's Syriza has come out on top in two successive elections and Spain's Podemos is set to make big advances in December's general election. In the United States, Bernie Sanders, a self-described independent socialist, is making a spirited run for the Democratic nomination. And in the Vatican Pope Francis denounces the "invisible tyranny of the market" and recommends "returning the economy to the service of human beings".

Why is anti-capitalism gaining ground? Dave Spart would no doubt argue that the people are finally realising that the free market is an illusion. Big companies act as rent-seeking monopolies, with their executives lobbying politicians for special favours and tax breaks. The boss-class awards itself huge pay packets regardless of success or failure: it is said that Martin Winterkorn, the departing CEO of Volkswagen, may leave with a pension-plus-severance package worth €60m ($67m). This argument is gaining ground on the right as well as the left. On September 25th Charles Moore, Margaret Thatcher's official biographer, wrote in the *Wall Street Journal* that Marx had a valuable insight "about the disproportionate power of the ownership of capital". A Gallup poll of confidence in American institutions found that "big business" came second to bottom, just above Congress, with only 21% expressing "a great deal" or "quite a lot" of confidence in it.

Free-marketeers have a ready-made answer to this argument. Messrs Spart and Moore are complaining about the problems of corporatism rather than capitalism. The best way to solve the problems of "bad capitalism" (monopolies and cronyism) is to unleash the virtues of "good capitalism" (competition and innovation). The welcome news for such free-marketeers is that good capitalism is gaining ground. Look how hard it is nowadays for big firms and big bosses to entrench themselves. The average time a company spends on the *Fortune* 500 list has fallen from 70 years in the 1930s to about 15 years today; and the average job tenure of a *Fortune* 500 CEO has gone from ten years in 2000 to five years today. The bad news is that good capitalism may be doing as much as bad capitalism to create the current backlash.

Globalisation and digitisation have speeded up the pace of creative destruction. Successful firms can emerge from obscure places such as Estonia (Skype) and Galicia (Inditex) to straddle the globe. Digital technology allows businesses to become huge in no time. WhatsApp, a mobile-messaging platform, reached 500m users within five years of its launch. But the champions of this brave new world can be disconcerting. They are usually light on both people and assets, partly because digital services are highly automated and partly because of outsourcing. Ten years ago Blockbuster had 9,000 shops in America with 83,000 employees. Netflix employs just 2,000 people and rents the computing power for its streaming video from Amazon. Gerald Davis of the University of Michigan's Ross School of Business calculates that the 1,200 firms that have gone public in the United States since 2000 have each created fewer than 700 jobs worldwide, on average, since then. They are also ruthless: the new champions are constantly reinventing and reconfiguring themselves in order to avoid the fate of former champions such as AOL and Nokia.

Rapid change is provoking anxiety—and resistance. Supporters of good capitalism argue that employability is what matters, not employment. But what happens when change is so fast that "skills security" goes the way of job security? Those in the good-capitalism camp say, too, that rapid change is the price people pay for prosperity. But surely people value stability as well as the fruits of technology? In 1988 William Samuelson and Richard Zeckhauser, two economists, described a case in which the German authorities wanted to move a small town, so the coal underneath it could be mined. They suggested many options for the new town but, rather than something more suited to the age of the car, its citizens chose a design "extraordinarily like the serpentine layout of the old town, a layout that had evolved over centuries without (conscious) rhyme or reason."

I am Spart

Pro-capitalists rightly argue that the creative bit of creative destruction outweighs the destructive side. Thanks to Google and its likes we can search a good portion of human knowledge in an instant. Thanks to firms like Apple we each carry a supercomputer in our pockets. Thanks to sharing-economy companies such as Uber and Task Rabbit, people who do not want to work regular hours can find work whenever it suits them. The best way to solve some of our most nagging problems is to unleash the power of innovation. Airbnb is cutting the cost of temporary accommodation and MOOCs (massive open online courses) are democratising access to an Ivy League education.

But pro-capitalists should also remember two things. The first is that most people do not distinguish between good and bad capitalism: they see a world in which the winners are unleashing a tide of uncertainty while reserving themselves luxury berths on the lifeboats. The second is that the forces sweeping through the capitalist economy are also sweeping through politics: the old party machines are imploding, and political entrepreneurs have the wherewithal to take over old parties or to build new ones. Anti-capitalism is once more a force to be reckoned with. ■

Also in this section

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The copper market

Red scare

Ebbing Chinese demand for copper explains much of this week's turbulence in mining stocks

ALONG the muddy banks of the River Severn in Newport, Wales, sits the "mega-shredder", an industrial monster owned by one of the world's biggest metal-recycling firms, Sims Metal Management. It is one of the planet's biggest consumers of metals—literally. Every hour the 560-tonne machine gobbles up more than half its weight in cars, washing machines and other appliances, making the earth shudder as it grinds them to pieces. It then uses magnets to separate the ferrous from the non-ferrous bits, spitting out small nuggets of steel, copper and other scrap. These are shipped to smelters in Asia, where they are mixed with ore and re-blasted into the rods and sheets that feed that other great devourer of metals, China.

A decade ago, when the machine was installed, China's hunger for scrap seemed insatiable. Plumbers the world over developed a nifty side business as copper merchants. Theft was so rife that Britain banned cash payments for scrap metal. But in the first half of 2015 exports to China were half the level of 2012, when demand was at its peak, says Ian Hetherington of the British Metals Recycling Association. Scrap dealers' hunt for customers is getting desperate. "I have people from small and midsized companies who spend half their lives going round the copper smelters in dim and distant parts of China," he says.

It is not just scrap dealers who are suffering from slowing demand for metals in China. On September 28th shares of Glencore, a debt-laden Anglo-Swiss miner and trader, fell by almost a third, despite the firm's attempt to buttress its balance-sheet in recent weeks by raising $2.5 billion of equity and suspending the dividend. Shares of Anglo-American, a London-based mining firm, also took a beating. Even after a subsequent rebound, Glencore's shares have fallen to a sixth of their level at its listing in 2011. There is even talk of taking the firm private again—although financing such a step would be tricky.

The trigger for the latest plunge was a note from Investec, an investment firm, speculating that if weak prices persist, Glencore's and Anglo's earnings would be consumed by debt repayments and servicing, eventually wiping out the value of their share capital. It noted that the biggest global miners, Rio Tinto and BHP Billiton, though less indebted, were also likely to see rising debt ratios if prices remained low, which might threaten their ability to maintain dividends, much like at Glencore. It said the mining industry had "gorged" on cheap debt during the China-led metals boom of recent years. Now it is paying the price.

The commodity that accounts for the biggest share of Glencore's revenue is copper. Like most industrial metals, its price has fallen steadily in recent years, with a predictable effect on Glencore's shares (see chart). The sharp slowdown in industrial activity in China is disastrous for copper producers, since China consumes 45% of their output. Its attempt to shift from an investment-led economy to a consumer-led one has raised fears of a structural decline in the amount of copper it will need. However much electrical wiring there is in consumer goods, it does not match the vast tonnages consumed during the recent decades of rapid urbanisation in the form of power lines, telecoms cables and the wiring of big apartment complexes.

Estimates of short-term Chinese copper demand vary. Deutsche Bank reckons it will grow by 3% a year on average over the next five years, down from 7.5% over the past five. Goldman Sachs, another bank, takes a particularly bearish view, saying Chinese copper consumption will not grow at all this year and next.

One recent disappointment has been the roll-out of electricity infrastructure in inland Chinese cities, where investment was expected to surge this year. Analysts at BHP say such infrastructure accounts for the biggest share of copper consumption in China, more even than the construction industry. Yet a crackdown on corruption at ▸▸

state-run energy companies slowed the grid-laying projects during the first half of the year, analysts say. What is more, China is increasingly using aluminium for its thick power-distribution cables, rather than copper—a cheaper option, even if aluminium is a poorer conductor.

Spending on other infrastructure is accelerating, but it is unlikely to be enough. Property construction accounts for a much bigger share of Chinese investment and, with unsold homes dotting the country, is unlikely to rebound soon. Moreover, copper is needed at the end of construction, for a building's wires, pipes and air-conditioning systems, as well as home appliances. Housing completions have plummeted by 15% so far this year; housing starts are even weaker. Though property sales are up, the number of white goods needed to fill the newly sold units is unlikely to be enough to tighten the market.

Alongside industrial attrition, copper has been under speculative attack in China too. Chinese hedge funds, dissuaded by the government from "rumour-mongering" about stocks, have launched sporadic "bear raids" on copper as a proxy for betting against China's economy. Kenneth Hoffman, a copper specialist at Bloomberg Intelligence, a data firm, describes the size and power of these firms as "chilling".

Speculators' ability to roil markets is aided by inadequate data on copper stocks in China. The murky numbers on warehousing and the strategic stockpiles of China's State Reserve Bureau have led some, such as Mr Hoffman, to believe the data overstated the strength of copper demand in China even during the good times.

Yet the outlook for China is not all bearish. As incomes increase, the "intensity" of copper use is likely to grow. China is still well short of the average-income level at which consumption of copper peaked in

Buttonwood | The vultures circle

Rising credit spreads are the latest bad omen

THERE is no shortage of bad omens for the global economy at the moment. To name a few: plunging commodity prices, wobbly equity markets, weak world trade, reduced profit forecasts for American companies and lower long-term inflation expectations. In recent weeks, a new one has joined the list: rising corporate-bond spreads.

These spreads—the difference between the interest rates paid by governments and blue-chip companies and those paid by riskier borrowers—reflect the risk of default. Rising spreads imply that investors are getting antsier about being repaid. That anxiety may well stem from worry about the economy.

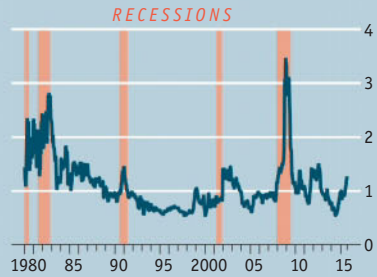
Spiking credit spreads have often been a harbinger of recession (see chart). As David Ranson of Wainwright Economics argues: "Yield spreads represent a market assessment of the strength of the economy and are not affected by any of the technical measurement problems that plague the GDP figures."

As an indicator, credit is clearly not entirely reliable: a rise in spreads in 2012 was not followed by a downturn. As yet there is no sign of a rise in the default rate on high-yield debt: it dropped to 2.3% in August, according to Moody's, well below the historical average of 4.5%. However, the proportion of American corporate bonds classed as "distressed" (a yield ten percentage points or more higher than Treasury bonds) has risen to 15.7%, a four-year high. Liquidity in the corporate-bond market is not great, since banks have reduced their market-making activity. This can lead to sharp price moves if institutions lose their enthusiasm for credit. David Lloyd of M&G, a fund manager, says current conditions resemble "a temporary buyers' strike".

Many will point to the problems of energy and mining firms and argue that the rise in bond spreads is yet another manifestation of the fall in commodity prices. Worries about the health of Glencore, a big mining firm, led to a plunge in its share price and a rise in its bond yields this week.

Wide comes before a fall

Difference in yield between American Aaa and Baa corporate bonds, percentage points



Sources: Moody's; US Federal Reserve

However, the fall in commodity prices is itself being driven by a worrying slowdown in demand from China and the rest of Asia. South Korea, seen as a bellwether economy, has suffered a 14.7% fall in exports over the past year. Even India's central bank, presiding over one of the strongest economies in Asia, decided to cut rates by half a percentage point on September 29th, citing flagging global demand.

Slower emerging-market growth creates another problem for bond investors to worry about. The debt of non-financial firms in emerging markets quadrupled between 2004 and 2014, according to a new report from the IMF. Over the same period, the average ratio of corporate debt to GDP in emerging markets rose by 26 percentage points. That debt will be harder to service as growth slows.

The role of credit in driving booms and exacerbating busts is extremely important. Stronger credit growth tends to boost economic activity and push up asset prices—encouraging further credit growth since banks become more confident about lending in a world of higher asset values. This is a virtuous circle. But after the peak is reached, asset prices fall, banks become less keen on lending and activity declines—the circle turns vicious.

In a recent speech Andrew Haldane, the chief economist at the Bank of England, talked of a "large slug of global liquidity" that has "by turns inflated then deflated capital flows, credit, asset prices and growth in different markets and regions". The Anglo-Saxon crisis of 2008-09 was the first manifestation of this problem, the euro-zone crisis of 2011-12 was the second, and we may have entered into a third crisis, this time in emerging markets, he argues.

Matt King of Citigroup points out that capital flows into emerging markets seem to have stalled. Furthermore, the central banks of emerging markets have been selling, rather than buying, assets. This means that, despite the efforts of the Bank of Japan and the European Central Bank, central banks are no longer net buyers of financial assets at the global level. Given the huge role played by central banks in supporting financial markets since 2008, this is a worry. And given the role played by emerging markets in supporting global growth, their problems are a concern, too.

The rise in credit spreads is not proof that recession is imminent—it is a necessary, but not sufficient, condition. But it is an indication that financial stresses are beginning to emerge. One swallow does not make a summer. But the sudden appearance of a vulture circling overhead ought to raise serious concerns.

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Japan, for instance. Nascent industries such as wind and solar power and electric vehicles, all of which are copper-intensive, may also boost future demand.

Before then, supply must fall to balance the market. After a brief rally, copper traders shrugged off Glencore's announcement last month that it would close mines in the Democratic Republic of Congo and Zambia, cutting supply by about 400,000 tonnes over 18 months—some 2% of the world's annual output.

Some estimate that the industry will still churn out about 500,000 tonnes of excess copper this year. Eleni Joannides of Wood Mackenzie, a research firm, expects that by the end of the year global copper stocks will amount to 80 days of average consumption, higher than during the 2008-09 global financial crisis. That oversupply will get worse: it takes several years to build a mine, so several firms were caught out when the market turned. As a result big new increments of supply have hit the market in the past year or two, just at the wrong time. Stocks will not peak until 2017, Wood Mackenzie predicts.

Glencore is not the only global miner to respond by cutting output. Ms Joannides says mines producing a further 170,000 tonnes a year have been idled so far this year. But only the most expensive supplies are being removed from the market. Many firms, helped by falling currencies in countries like Chile and Peru, are instead slashing costs to keep production going.

The industry's fragmentation makes it unlikely that producers will agree to rein in output. Goldman Sachs notes that iron-ore producers continue to increase output, even though four of them control 65% of the world's production; in copper the top five producers have only a third of the market. In some cases, it is cheaper over the long run to keep mines running at a loss for a while, to maintain security and retain staff, rather than to close them down.

Within a few years, however, many analysts expect natural constraints to put a floor under prices. The quality of ore in copper mines decreased during the boom. Water shortages make copper more expensive to extract. Mine depletion in Chile and Peru has driven companies towards new deposits laced with arsenic that require costly cleaning. And workers and environmentalists increasingly raise their voices against lousy pay and conditions.

Higher costs make it less likely copper production will increase, which should eventually help stabilise the market. Chinese demand may also be supplemented by growth in other emerging markets, such as India, which consumes just 2% of the world's copper. The challenge for the big diggers like Glencore, and the "urban miners" such as the mega-shredders and scrap dealers, is to hold out until then. That is far easier to do without big debts to service. ■

Abenomics

Less of the same

TOKYO

The Japanese government's three new economic arrows miss their mark

AFTER four months battling to pass unpopular security legislation, Shinzo Abe, Japan's prime minister, lost no time in returning to somewhat safer ground: the economy. On September 24th he fired off what he called "three new arrows" in service of Abenomics, his programme of monetary easing, fiscal stimulus and far-reaching structural reform. Yet recent data suggest the economy may offer Mr Abe no respite from a bruising year.

Japan's GDP shrank by 1.2% on an annualised basis in the second quarter, after expanding in the first. Now worries about the third quarter are mounting. Industrial production continued to fall in August, suggesting that the economy may even have entered recession in the quarter. In addition, for the first time since the government embarked on Abenomics in April 2013, prices in Japan are falling again, albeit only slightly. One key gauge of inflation, core CPI (the consumer-price index excluding fresh food), fell by 0.1% in August.

It is all dire news for the Bank of Japan (BOJ), which is supposed to get prices rising by 2% a year by next autumn. The bank's preferred measure of inflation is now "core core" CPI, which excludes energy as well as food, and which is rising. Yet broad inflation expectations may be affected by the news of deflation's return. The BOJ will surely come under renewed pressure to expand its existing programme of monetary easing at the end of October, when it is due to update its economic forecasts.

An economic stimulus plan

Mr Abe's new arrows did little to pierce the gloom. The first, a pledge to boost nominal GDP by 22% to ¥600 trillion ($5 trillion), was met with scepticism since Mr Abe gave no time frame, nor any detail on how to reach it. Nominal GDP has been rising consistently since he returned to office—but by an average of just 2.3% a year since the start of 2013.

The new GDP target certainly underscored the government's determination to pursue economic growth rather than focus on Japan's huge sovereign debt, which now stands at 246% of GDP. But that does not go down well with credit-rating agencies. The latest to downgrade Japan's debt was Standard & Poor's on September 16th. Since Japanese institutions and households hold the bulk of the outstanding debt, and the BOJ is buying almost all new issuance, yields barely budged. But the move signals scepticism that Japan can grow its way out of its problems.

Mr Abe's second and third new arrows were aimed at his domestic audience and merely embellished his existing programme of structural reform, which has disappointed. He promised greater financial support for families in order to raise Japan's low birth rate, as well as extra nursing facilities for the elderly. He repeated a pledge to stop the population falling below 100m (on current trends Japan's population of 127m is set to fall to 87m by 2060).

Reformers worry that the new arrows are substitutes for much sharper ones that Mr Abe has promised to use, but left in the quiver—most notably, an assault on privileged groups, including farmers, doctors and pharmacists, that collectively stifle the economy. Abenomics now risks veering away from its original ambition into populism and misguided policy, says Takatoshi Ito of Columbia University, a former adviser to the prime minister.

Mr Abe was bolder in front of international investors this week in New York. He promised further steps on corporate governance, where much has already been achieved. He would speedily conclude negotiations on the Trans-Pacific Partnership, an ambitious free-trade agreement, he said. A trade deal would help liberalise the economy.

An even bolder step, and perhaps the only plausible way to deal with Japan's demographic problem, would be to back higher levels of permanent immigration. Despite Mr Abe's promise to stabilise the population, he shows no willingness to go so far. At the United Nations this week, he pledged to triple aid for refugees and displaced people from Syria and Iraq, but ruled out taking any in. After three years and six arrows, Mr Abe's knack for archery is in growing doubt. ■

Emerging markets

Under the cosh

The winners and (mostly) losers from the recent turmoil

BEING an emerging-market fund manager used to be fun. They enjoyed trips to exotic locations, faced less competition than those managing American or European equities and were so flush with cash that some funds could turn investors away. Today, emerging-market investing is less of a jaunt. The globetrotting that money managers do now is mainly to beg nervous investors not to sell up.

Their entreaties are falling on deaf ears. In August alone investors pulled $10 billion from bond funds and $24 billion from various types of equity funds, according to the Institute of International Finance. Add in the effect of falling markets and the stock of investment in emerging-market exchange-traded funds (ETFs) and mutual funds has fallen from $1.37 trillion in December to $1.17 trillion now, the lowest since June 2012. Money is being carted away from the emerging world almost as fast as during the "taper tantrum" of 2013. Brazil, China, Indonesia and Turkey have suffered the largest outflows, largely due to continuing doubts over their growth prospects and the stability of their currencies. Faced with pervasive uncertainty, investment managers of all stripes have a lower weighting in emerging markets than at any time since 2008.

"It's been murderous," says Paul McNamara of GAM, an asset-management firm. Flightier investors pulled out months ago, but this summer more patient institutions, such as pension funds and insurers, fled too. Three years of disappointing returns were quite enough. The numbers are magnified, says Robert Burgess from Deutsche Bank, because investors from emerging markets themselves (especially Chinese and Russians) have also been selling up, unlike in 2013. To complete the misery, central banks and sovereign investors, particularly from the Gulf states, are selling foreign assets to raise the cash they need to plug their budget deficits.

The pain has been felt everywhere. Local-currency funds have suffered because of the depreciation of most emerging-market currencies. ETFs have fallen in line with the indices they track. This passive approach has left them exposed to the especially poor performance of state-owned enterprises and energy firms, says a manager at an active fund, who claims to have fared better because he could avoid such stocks. BlackRock's MSCI emerging-market ETF, for example, has seen net withdrawals of $7.4 billion this year.

But actively managed emerging-market-focused fund groups, such as Ashmore and Aberdeen, have also been battered. Since the start of summer, their share prices have dropped by more than a quarter, accelerated by hedge funds that shorted their stocks (ie, bet that their share prices would fall further).

Other hedge funds—those with a focus on emerging markets—have shared in the misery, with some losing as much as 20-30% in July. But by August, most had cut their exposure and are now holding a lot of cash, says David Walter of PAAMCO, a fund of hedge funds. Some, like ESG's Nexus fund and Harbour Capital, called the Chinese crash early and took short positions which worked out well. The question for them is when to call the bottom: some funds are said to be looking for bargains in expectation of a rebound. ■

Resilient notes and coins

Money for everything

Despite many usurpers, cash is still king

CASH has many enemies. Banks have added contactless technology to their credit and debit cards; apps like Uber use pre-stored details for transactions and services such as Venmo allow people to make transfers to one another using only mobile phones. Peter Bofinger of the German Council of Economic Experts says cash should be phased out to save the money spent printing and distributing it, and to eliminate the annoying queues generated by shoppers who insist on using it. Lawmen dislike it, since it is an enticingly anonymous store of value for criminals. Now even central bankers are getting in on the act: the chief economist of the Bank of England has proposed eliminating cash as part of a plan to permit negative interest rates. (Storing bank notes under the mattress is an easy way of thwarting a bank intent on charging negative rates.) Yet for all its detractors, cash is puzzlingly resilient.

Economists had long assumed that as nations grow richer and their financial infrastructure becomes more elaborate, the amount of cash in circulation would first grow rapidly and then begin to slow, as alternatives gained traction. Eventually, an absolute decline seemed likely, as cards and apps supplanted notes and coins.

Thus the value of cash in circulation in China grew fourfold between 2000 and 2014 as the economy soared. In Sweden, meanwhile, demand for the physical sort of krona has fallen steadily for the past decade. In 2005 there were 10,700 kronor ($1,430) in circulation for every Swede; by 2014 that had fallen to 8,000. This has had interesting anecdotal effects: would-be robbers have been turned away by cashless banks; churches now offer card-readers to tech-savvy parishioners. Denmark, another early deserter of cash, has seen weak demand for banknotes.

But even among rich countries, Sweden and Denmark remain outliers. Elsewhere, demand for cash continues to rise steadily (see chart). Curiously, the rich country clinging the most enthusiastically to cash appears to be South Korea. Despite Koreans' fondness for plastic and a declining number of cashpoints, won in circulation have risen by 15% a year since 2009, or more than triple the rate of the previous five years. This cash is not being spent in shops; nor is it likely that the shadow economy has grown enormously.

Instead, Koreans seem to be hoarding cash. Very low interest rates have reduced the opportunity cost of snubbing banks. And in 2013 the government reduced the amount of interest Koreans could earn before becoming liable for tax. To avoid the resulting paperwork and scrutiny, many wealthy Koreans began storing their excess earnings in cash. The Bank of Korea saw many high-denomination notes disappear ▸▸

from view; sales of private safes tripled between 2010 and 2014.

Koreans are not the only hoarders. Recent British surveys suggest that locals keep £3 billion-5 billion ($4.5 billion-7.5 billion) in their piggybanks, representing up to 10% of the sterling in circulation. That points to a more nuanced explanation for the persistence of cash. It may well be ceding ground to contactless cards and the like for low-value transactions, but high-denomination notes are still in favour. In America, $100 notes now account for almost 80% of the value of banknotes, up from 60% two decades ago. In Britain, £20 and £50 notes (the two highest denominations) make up a growing share of the cash in circulation. As a means of exchange, cash may be losing its lustre, but as a store of value, it seems to have a future. ■

Property taxes

Assessing the assessments

NEW YORK

Housing is taxed more heavily in New York than London—unless you're rich

NEW YORK may have a reputation as a brusque, unfriendly place, but to those who buy expensive properties, at least, it can be very welcoming. Take the anonymous owner of the penthouse in Midtown Manhattan's 90-storey One57 skyscraper. The flat sold for $100m in December, a New York record. The city collected a modest $2.8m in taxes, 2.8% of the price, when the deal went through. And the new owner's first annual property-tax bill came to $17,268, just 0.02% of its value.

In contrast, if Britain's main political parties can agree on anything, it is that expensive homes in London should be taxed heavily. In 2009 Vince Cable, a senior Liberal Democrat, first proposed a "mansion tax" on residences worth over £1m ($1.6m). Five years later Ed Balls, then Labour's shadow chancellor, said he aimed to raise £1.2 billion a year from a similar policy. Not to be outdone, last December George Osborne, the Conservative chancellor, raised stamp duty, a levy on property purchases, for houses worth more than £1.13m. A hefty 12% of the portion of the sales price above £1.5m now goes straight into the government's coffers.

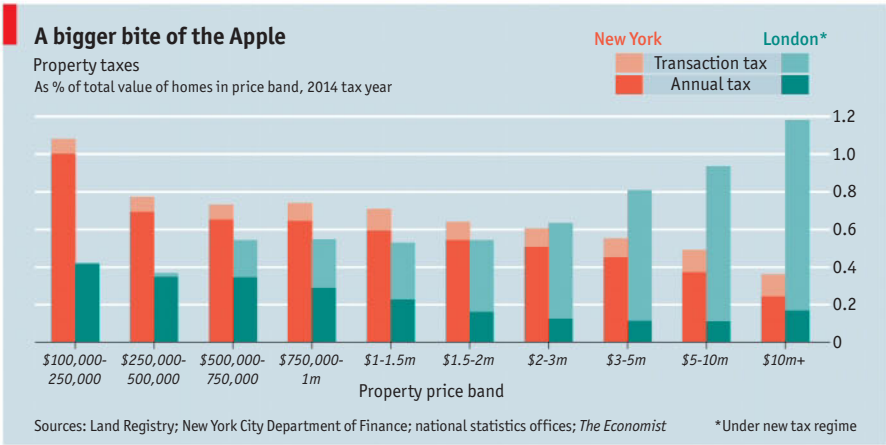
So does that make New York a property-tax haven, and London a den of expropriation? Not exactly. In fact, it is New Yorkers who pay more tax on their property overall: last year New York's 3.5m households coughed up $12 billion on homes worth $1.7 trillion, a rate of 0.71%. In contrast, London's 3.5m households paid $11 billion last year on property that would sell for $2.2 trillion, just 0.51% of its value. London's take is lower for a heartening reason: it is only expensive properties that it taxes heavily, whereas New York soaks the poor.

Around 40% of New York's $50 billion a year in tax revenue comes from property. The city charges fixed rates on the assessed value of every home within its borders. In buildings with more than three units, state law requires flats to be valued at a multiple of the rent they could fetch if let out. This anodyne-sounding rule is tantamount to a massive tax break for the super-rich. Because stratospherically priced flats are rarely let out, there are no comparable properties in the rental market. That forces the taxman to rely on much more modest homes instead, leading to ludicrous valuations: although the penthouse at One57 cost $100m, it was valued at $6.5m.

Another quirk of New York law further shields the rich. In order to protect homeowners from soaring liabilities in the event that their properties appreciate faster than their incomes do, the city has instituted caps that limit tax increases for some types of buildings to 6-8% a year and 20-30% over five years. This system shifts the tax burden away from areas of sharply rising values and onto blighted regions where prices are stagnant. As a result of these policies, New York's property-tax system is sharply regressive: the cheapest homes, ranging from $100,000 to $250,000, tend to pay the highest rate (1.08% on average in 2014), whereas those worth more than $10m get away with just 0.36% (see chart).

Property taxes in London, in contrast, are reasonably progressive. Although the annual levy on the value of British homes, called council tax, is even more biased in favour of the rich than New York's is, it accounts for a far smaller share of the local property-tax burden. Instead, stamp duty brings in 45% of the total (in New York, transaction taxes represent just 13%). And thanks largely to Mr Osborne's recent reforms, stamp duty falls most heavily on the rich. The more expensive a house gets, the higher the effective tax rate.

Mr Osborne has also introduced a new levy to thwart loophole-seekers. Before 2012 Britain did not charge stamp duty on properties bought by companies rather ▸▸



than individuals. Now, such residences not only incur the highest duty of all, at 15%, but are also subject to a separate, new annual tax on their value. In the year to April 2015, this policy raised an estimated £104m in London, increasing total property-tax revenues in the city by 1.6%.

Together, these reforms have shifted the burden of London's property taxes much more heavily onto the wealthy. Under the old rules, the 1,400 residences in London worth more than £10m were taxed at just 0.61% of their value. The new rules increase this to 1.09%, three times what homes of that value pay in New York. Meanwhile, Londoners living in properties worth less than £1m paid 0.44% last year, less than half the rate in New York.

In addition to its progressivity, London's system also trumps New York's on consistency. Although council-tax rates vary among London's 33 boroughs, the maximum bill is just £3,356 a year. As a result, liabilities for expensive homes stem mostly from stamp duty and from the tax on property owned by companies, for which units of equal value always pay the same amount. That is in sharp contrast to New York's tax code, which is riddled with exemptions that enable some homeowners to dodge the taxman almost entirely.

In 1971, after decades of population decline in Manhattan, New York launched a scheme to attract residents by offering a subsidy to developers intended to benefit homebuyers. This system, known as 421a, slashes property taxes for 10-25 years after a new development is built, in exchange for promises to build affordable housing. As home values have risen, these abatements have proven far costlier than expected: today, they add up to $1.1 billion a year, or 2% of New York's total tax take.

Worse, the programme has complicated rules on eligibility, which are only worth bothering with for big or pricey developments. Just 153,000 homes—among them One57—benefit from it. Even within this group, the magnitude of the benefit varies widely, depending on whether a building is near the start or end of its abatement. As a result, among homes in New York worth more than $10m, the most heavily taxed fifth pay three times as much in annual levies as the most fortunate fifth.

Just 12,750 of the 153,000 homes receiving a 421a subsidy were classed as affordable in 2013, according to the Association for Neighbourhood Housing Development, a trade group. At $400,000 a unit, the city could build that many affordable flats itself in less than five years using the money it spends on 421a. The tax breaks offered under the scheme, in contrast, can last five times longer. But after 45 years of profiting from special treatment, luxury developers and rich homeowners now have plenty of cash to lobby for the maintenance of their prized subsidy. ■

Global housing markets

Upwardly mobile

House prices are on the rise again around the world

WHEN the bottom finally fell out of America's housing market in 2006, it triggered the worst global recession since the 1930s. But rising house prices need not spell disaster. *The Economist*'s latest round-up of house prices across the globe shows that prices have risen over the past year in 21 of the 26 economies we track, at a median pace of 4.7% (see table). Not every rise is alike, however.

America is still—just—in the category of countries where the housing market remains in recovery. House prices there increased by 4.7% in the 12 months to July, according to the Case-Shiller national index. Prices have now risen by 25% from their 2011 trough, but still remain 7% from their 2007 peak. *The Economist* measures national affordability by comparing prices to the long-run average of their relationship with rents and income. On this basis, we reckon house prices in America are broadly at their fair value.

Not for long, perhaps. Activity is buoyant: sales of existing homes increased by 6.2% on the previous year. With 30-year fixed-rate mortgages at record lows, the effect of an interest-rate rise on the housing market is expected to be minimal.

What is more, construction is lagging. The National Association of Realtors, a trade body, has found that new housebuilding is failing to keep pace with job creation in many cities. For every 12 jobs created builders have historically gained construction permits for ten new homes. Between 2012 and 2014 that number fell to 4.8 permits. Some cities are sizzling again as a result: prices in San Francisco increased by 10% in the year to July, and are up by 75% since 2009.

Other countries' housing markets are already well above fair value. Taking an average of our two measures, houses are more than 30% overvalued in six markets. Britain is perhaps the most supply-constrained of this group. Although prices have risen by 35% since their trough in January 2009, housebuilding is failing to respond. Just 140,000 homes were completed in the year to March 2014, some 25% below the long-term norm. That puts a firmer floor under prices than in other notably overvalued markets such as Canada and Australia.

Hong Kong is the most extreme example of soaring prices and limited supply. Property prices in the territory appreciated by 21% in the year to June, and have now doubled in five years.

***The Economist* house-price indicators**

	Latest, % change		Under(–)/over(+) valued*, %, against:	
	on a year earlier	Since Q1 2012	Rents	Income†
Hong Kong	20.8	61.4	89	*na*
Turkey	18.8	56.0	20	*na*
Ireland	13.4	23.2	29	3
Sweden	10.3	21.5	47	29
Australia	7.5	23.4	63	43
South Africa	7.3	29.1	12	7
India	6.4	18.3	*na*	*na*
Mexico	6.4	14.9	13	*na*
Russia	5.1	13.8	*na*	–21
Britain	4.7	24.9	47	27
Canada	4.7	14.2	89	34
United States	4.7	30.0	10	–6
Germany	4.6	14.9	-9	-10
Brazil	4.5	35.0	*na*	*na*
Israel	4.0	22.5	11	*na*
South Korea	2.9	3.6	3	–39
Netherlands	2.5	–6.8	2	15
Switzerland	2.2	9.0	2	–7
Japan	2.2	4.7	–27	–30
Spain	1.6	–14.3	12	5
Belgium	0.7	2.9	54	46
France	–2.3	–6.0	28	22
China	–2.4	4.6	25	–49
Italy	–3.3	–13.6	-6	3
Singapore	–3.7	–2.0	17	*na*
Greece	–5.9	–25.6	–18	–17

Sources: Haver Analytics; OECD; Thomson Reuters; national statistics offices; *The Economist*

*Relative to long-run average †Disposable income per person

Since 2009 the regulator has introduced seven rounds of "macroprudential" measures designed to cork the rises. Its latest, in March this year, reduced the average loan-to-value ratio for new mortgages from 64% to just 52%. In practice, China's recent stockmarket crash is likely to be a bigger dampener on demand, as wounded mainland investors put off new purchases.

As for China's own housing market, it is one of only five in our index where prices are falling, joining Singapore and a trio of euro-zone countries—France, Greece and Italy. Prices are falling at a slower rate than before, however. The government has been trying to boost the market over the past ten months, cutting interest rates by 1.4 percentage points and relaxing rules on downpayments. Prices are now rising on a monthly basis in many cities. In Beijing and Shanghai, they look positively frothy again.

Free exchange | Taking a pounding

What America can learn from sterling's decline as a reserve currency

WHEN did Britain cease to be the world's pre-eminent power? Some date its dotage to the end of the first world war; others to the second. By the time of Britain's humiliation during the Suez crisis in 1956, America's hegemony was clear to all. Yet perhaps the most significant indicator of decline went relatively unnoticed by contemporaries: the dollar's usurpation of sterling as the world's main reserve currency.

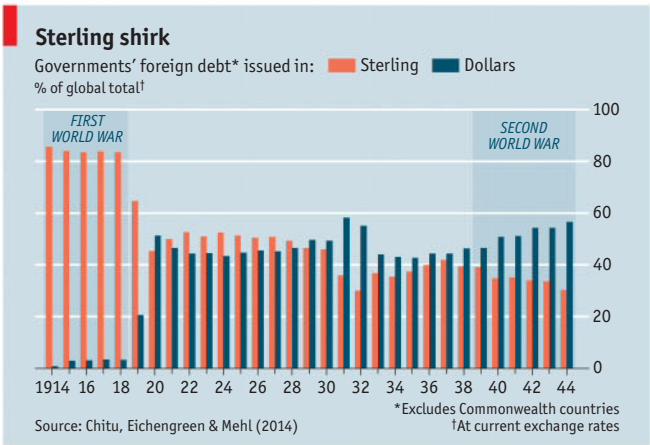
Fears that a similar fate awaits America and the dollar, at the hands of China and the yuan, have burgeoned over the past decade. They have been fuelled by China's growing economic weight—last year it became the world's biggest economy in terms of purchasing power—and by the efforts of its government to promote the use of the yuan in international transactions. That has prompted economic historians to re-examine sterling's downfall, in search of clues about how the impending tussle between the dollar and the yuan might unfold. The research yields lessons in three broad areas—how a currency attains reserve status, whether a two-currency system is possible, and how poor policymaking can speed a currency's decline.

The pound dominated the financial world in the late 19th century: more than 60% of trade and 90% of public-debt issuance around the world was conducted in sterling. In part, this was owing to sheer economic clout: at its zenith, the British empire encompassed nearly a quarter of the world's people and territory. But as a recent series of papers* by Barry Eichengreen of the University of California, Berkeley, and several colleagues shows, this was not a sufficient condition for financial hegemony. After all, America's economy overtook Britain's in size around 1880, yet the dollar was rarely used abroad until after the first world war.

Mr Eichengreen argues that the "size, stability and liquidity" of financial markets are the most important determinants of reserve status. The pound was a reliable store of value, having been freely convertible with gold since the 1820s. It also offered access to London, the world's biggest and most stable financial centre. Moreover, as Charles Kindleberger, another economic historian, pointed out, sterling's place in the world was bolstered by international co-operation: to help deal with destabilising current-account surpluses and deficits, Europe's central banks co-ordinated monetary policy and extended one another loans.

As a result, the dollar only began to supplant the pound after the establishment of the Federal Reserve in 1913, which helped make America's financial markets both more liquid and more stable. Soon after, the international co-operation that supported the pound collapsed amid acrimony regarding reparations and war loans following the first world war.

All this should reassure the dollar's defenders. America's capital markets remain massively bigger, more liquid and better regulated than China's, the financial crisis notwithstanding. Although the Chinese government is actively promoting the development of its financial markets, just as America did a century ago, progress has been fitful. The yuan is not fully convertible, the authorities meddle with the markets and Chinese stocks have become a byword for instability.



It need not be lonely at the top

Mr Eichengreen's research also suggests that two reserve currencies can co-exist for a long period. Although the dollar began gaining ground in the aftermath of the first world war, the pound remained an equally significant reserve currency throughout the interwar period (see chart). Nor is the road to a new reserve currency a one-way street: sterling regained some ground when America was hit by a series of banking crises in the early 1930s.

Economists had tended to assume that there are big gains to be had from using a single reserve currency, in the form of lower transaction costs for international trade and investment. That, in turn, should lead to a rapid transfer of allegiances during a switch from one reserve currency to another. But Mr Eichengreen argues that central banks and investors will continue to hold some reserves in a waning currency as long as it remains sufficiently liquid, since diversification brings even greater benefits by helping limit capital losses in the event of currency turmoil.

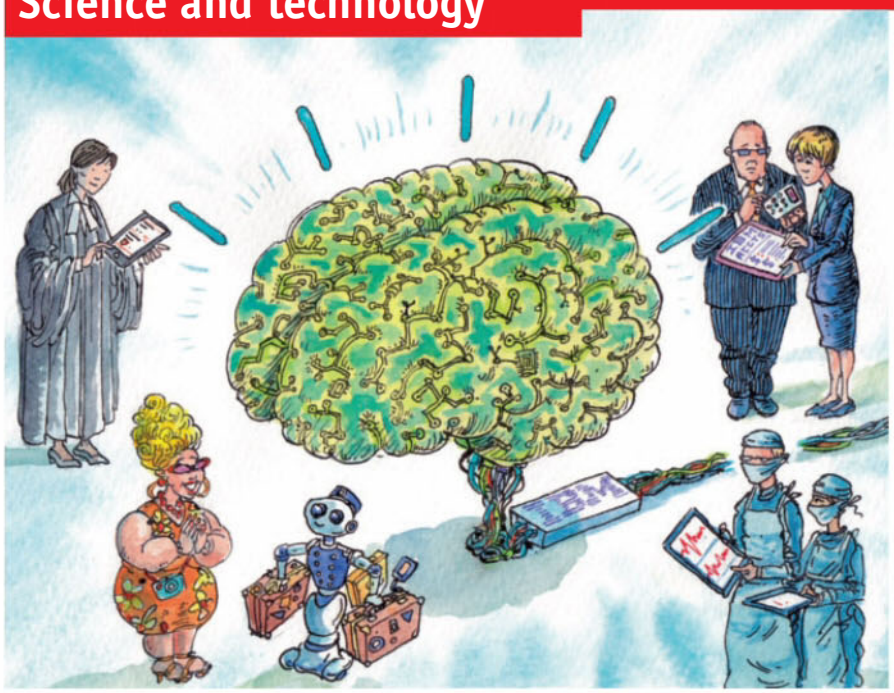
However, misguided policymaking during a period of overlap can hasten a reserve currency's decline. In the interwar years Britain took various steps to reverse London's waning status as a financial centre, including fixing the pound against gold at a rate that made its exports uncompetitive and introducing protectionist tariffs. In the long-run, such policies proved counterproductive: by dampening growth in Britain, they further diminished sterling's standing. Devaluations of the pound and exchange controls after the second world war terminally damaged its reputation for reliability and stability.

With luck, Congress will resist the temptation to erect obstacles to trade, despite the enthusiastic endorsement of the idea by populist politicians of the left and right. But it is not hard to imagine America undermining the dollar by refusing to co-operate with the world's other big economies. As it is, America is at loggerheads with China about reforming the IMF and the World Bank. It has also churlishly resisted Chinese initiatives such as the Asian Infrastructure Investment Bank.

The breakdown of international financial co-operation as a result of the first world war led to messy and unstable conditions in the interwar years. The IMF and World Bank were founded after the second world war to ensure that this error was not repeated. It would be ironic if those institutions themselves became emblematic of America's failure to learn the lessons of history: that the dollar will not soon be supplanted, that a rising currency need not be an adversary, and that insularity is the quickest way to hasten a reserve currency's demise. ■

*Studies cited in this article can be found at www.economist.com/reserves15

Economist.com/blogs/freeexchange



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Artificial intelligence

Elementary

SAN FRANCISCO

Watson, IBM's attempt to crack the market for artificial intelligence, is starting to be tested in the real world

IT IS a nice coincidence that IBM's greatest boss and Sherlock Holmes's sidekick shared a surname. But whether it was Thomas J. or Dr John H. who inspired the name of the firm's latest venture into artificial intelligence (AI), the association of that name with a touch of genius makes "Watson" a clever choice. This sense of cleverness was reinforced in 2011, when Watson won a specially staged version of an American TV quiz show called "Jeopardy!" The system's capacity to parse questions posed to it in the show's convoluted, pun-ridden English, to search huge natural-language databases for clues, to synthesise those clues into answers and to frame those answers in a conversational way was able to beat to the draw the finest minds of American quizdom.

Winning game-show prizes, though, is not a good enough business model to justify the investment it takes to build such a system. Watson has undertaken a successful test-run of a real-world application, by encoding the expertise of the doctors and nurses at Memorial Sloan Kettering Cancer Centre, in New York, for use by other medics, but it has yet to make real money. A year ago, in the hope of doing so, IBM made Watson available for general business use, letting firms create and market their own Watson-based apps. Some 350 have now signed up to do so, and their number is set to grow with IBM's announcement, on September 24th, of a new set of tools that will help outsiders develop commercial applications for Watson. The next year or so should thus see whether Watson is as clever at making money as it is at answering questions.

Head in the cloud. Feet on the ground?

The computational nitty-gritty of Watson's *modus operandi* remains IBM's trade secret. Watson lives in the cloud—the computing industry's name for application software and data stored and run on company-controlled machines remote from the user, rather than on the user's own machine—so it is unavailable to those who might wish to reverse-engineer it. But the principle behind it, called "cognitive computing" by IBM, is well known, the crucial point being that the software involved can modify itself, and thus learn as it goes along.

The process starts with Watson comparing a question it has been asked with a database of potential answers, and generating a long list of possible responses from these. It then scores the elements of this list against the contents of its numerous other databases, be those encyclopedias, medical files, audio clips or images. Fact-checking algorithms moderate the process, according to the perceived reliability of the sources, and a most-probably-correct result (or, often, a set of them) pops out. The final step is for human experts to rate and fine-tune the results, improving them (and thus teaching the software what to do) in an iterative process until the system has been trained well enough to be released to the world. To this end, IBM itself employs teams of linguists, psychologists and sociologists, as well as coders. But it also encourages others to do likewise.

Rob High, chief technology officer for the Watson project, says the tools just announced will extend the range of things developers can do with Watson. They will, for instance, permit the coding of apps that can understand questions in languages other than English; that can carry on an apparently intelligent conversation (a particular desideratum of AI engineers, since it was set as a benchmark of success by Alan Turing, an early computer scientist); that can help people reach decisions about things like what sort of car to buy (Mr High says IBM used Watson to select the location within San Francisco of its new cognitive-computing headquarters); and even that can assess the emotional state or personality traits of their interlocutor.

One early adopter of Watson, @Point of Care, a firm in New Jersey, provides doctors with iPad apps that summarise the latest peer-reviewed research on specific diseases. Earlier this year, @Point of Care's staff trained Watson to answer, based on the most up-to-date information, thousands of questions that doctors and nurses might ask about the symptoms and treatment of multiple sclerosis, lung cancer and diabetes. Sandeep Pulim, the company's chief medical-information officer, says the training process for a particular condition takes about 12 weeks. After that, the app can incorporate new research automatical- ▸▸

ly, as it is published.

Ross Intelligence, in Toronto, is doing something similar for lawyers. They can pose to its Watson app obscure questions on bankruptcy, and receive answers complete with citations and useful readings from legislation or case law. And services for less-specialised customers than doctors and lawyers are also starting up. Wine4me, an iPhone app developed by VineSleuth, in Houston, Texas, recommends bottles based on taste, budget and accompanying food. Go Moment, in Santa Monica, California, uses Watson to power a virtual assistant called Ivy to help hotels automate their customer service. UnitesUs, an online employment agency based in Irvine, California, asks Watson to analyse candidates' writing style, such as their social-media updates and tweets, to gain insight into their personalities. It sounds like seaside palmistry, but the firm claims candidates get more interviews as a result.

IBM itself makes money from this by the simple expedient of charging firms for access to Watson, according to a standard menu of fees. Transcribing a minute of speech costs 2 cents. Help with a decision (such as choosing a bottle of wine) costs 3 cents. A personality analysis is 60 cents. A session training Watson with a large quantity of data will set a developer back $3.

Other AI systems are available. IBM's rivals, though, usually limit their ambitions to one area of expertise. Clarifai, in New York, tags pictures with keywords. Metamind, in Palo Alto, California, analyses tweets for brand names and positive or negative emotions. Even Microsoft, which launched a set of AI development tools earlier this year, concentrates on detecting and identifying faces. Watson, however, seems truly multipurpose. IBM is even experimenting with using it to add cadence and intonation, accompanied by appropriate non-verbal gestures, to the speech of a humanoid robot. If it can pull that off, a truly disturbing possibility looms: that the next TV show featuring Watson might be "America's Got Talent". ■

The human microbiome

Signature dishes

As people pass through life they leave a trail of bacteria in their wake

THERE is indeed a cloud hanging over you: your own personal cloud of microbes. People constantly generate puffs of bacteria, even when they are sitting perfectly still. And research published in *PeerJ*, by James Meadow, then at the University of Oregon, and his colleagues, suggests that, like a fingerprint or a sample of DNA, these bacteria may be able to identify who someone is.

People shed bacteria—from their skin, mouths, noses and other orifices—at a rate of about 1m an hour. But until Dr Meadow's study, no one had looked at the details. Dr Meadow therefore decided to sit volunteers down, alone, in a sterile chamber for up to four hours at a time and collect what floated off them.

The chamber in question, a white-panelled room, with a wall-high window at the front, was ventilated with filtered air that came in through a hole in its ceiling. It was scrubbed clean with disinfectant before every use. The team's volunteers (six men and five women) dressed in new, clean, identical tank-tops and shorts, and sat for the requisite time in a disinfected plastic swivel chair at the chamber's centre. Each was allowed a sterile laptop, to communicate with the researchers and to alleviate boredom.

Dr Meadow collected bacteria both from air leaving the chamber (which it did via a hole in the floor), and from a ring of Petri dishes that surrounded the seated volunteer. These dishes caught debris heavy enough to settle. Both types of sample then had their DNA content analysed. That revealed which bacteria they contained—which turned out to be similar, regardless of sample type, for a given individual.

Samples did, though, vary from one person to another—both by sheer amount given off and by the relative proportions of what each cloud contained. Some people had more *Staphylococcus epidermidis*, a bacterium found on human skin, for instance, while others had more *Streptococcus oralis*, one that frequents the mouth. Women were easily distinguished from men, because they shed bacteria typically found in the female reproductive tract. Each person's bacterial cloud, Dr Meadow says, was statistically distinct.

This finding raises the possibility that microbial "footprints" left at the scenes of crimes might one day be useful to forensic scientists. A criminal who took care to leave none of his own DNA behind would find it hard to avoid leaving bacteria. (He would, after all, have to breathe.) For this to work, someone's bacterial profile would have not only to be unique, but also stable—which has yet to be established. If it is, though, scientific sleuthing will have acquired yet another tool, and false alibis will have become yet harder to establish.

Palaeontology

Layers of meaning

Mass extinctions are more complicated than they might at first appear

THE dinosaurs, as every schoolchild knows, died out 66m years ago, at the end of the Cretaceous period. But there is an argument about whether they went with a bang or a whimper. The bang brigade blame an asteroid that hit Earth at exactly the right time (the crater it created is in southern Mexico). This would have caused fires around the planet and thrown up a dust cloud that may have obscured the sun for decades. The whimperers blame a longer period of ecological stress—the result of huge volcanic eruptions in what is now India poisoning the atmosphere.

Some people think both were needed to push life over the edge (it was not only dinosaurs; a large fraction of other animal species succumbed, too). But one possibility has never been nailed down. This is that the impact actually caused the eruptions. That is the thesis of Paul Renne of the University of California, Berkeley, and his colleagues. And in this week's *Science* they publish a plethora of data on rocks from the period to back that thesis up.

The data in question are the precise ages of successive layers of lava in the Deccan Traps, as the volcanic province created by the Cretaceous eruptions is known (see photograph overleaf, and map). The researchers measured, in many layers of these rocks, the amount of an isotope of argon that had been created by the decay of radioactive potassium therein since those rocks had solidified. The half-life of this decay process is known with great accuracy, so rocks can be dated precisely using it.

The dates Dr Renne came up with

Knowledge trapped in stone

showed that, though the fissure through which the Deccan lava was erupting was already open when the asteroid arrived, the rate of eruption accelerated markedly within 50,000 years (a geological eyeblink) of that arrival. Dr Renne thinks the impact's shock waves shook the Earth so violently that they rearranged the subterranean plumbing which fed the fissure, causing this acceleration. The eruptions then raged on for half a million years. Only when they ceased did life start to recover.

In the case of the dinosaurs, new data have thus firmed up the timing of a coincidence that was previously only suspected. But another paper, pertaining to an earlier mass extinction, has done exactly the opposite: it has undermined the case for a coincidence in which almost all palaeontologists had until now believed.

The extinction in question happened at the end of the Permian period, 251.9m years ago, according to many independent datings of oceanic rocks from the time. Just as the Cretaceous extinction cleared the board for the mammals, so the Permian one cleared it for the dinosaurs. Like the end of the Cretaceous, this was an epoch of extensive volcanism (this time, in what is modern Siberia), though no clear sign of an impact has been found. What was assumed to be clear, though, was that, as happened in the Cretaceous, life on land and life at sea were hit at the same time. But a paper to be published this month in *Geology*, by Robert Gastaldo of Colby College, in Maine, begs to differ. Dr Gastaldo thinks extinctions on land began long before those at sea. Once again, the new interpretation relies on the precise dating of rocks.

The rocks in question are from a layer of volcanic ash in the otherwise sedimentary Karoo basin, in South Africa. The Karoo is a part of the world where the transition from the lush conditions of the late Permian to the dry ones of the early Triassic, which followed it, seemed starkly clear—as did the shift in species. That climatic change is reckoned to be part of what caused the mass extinction.

In fact, according to Dr Gastaldo's specimens, the transition was anything but stark. He found "Permian" animals in rocks thought Triassic, and pollen from "Triassic" plants in Permian layers. Date-wise, the whole thing looked a mess. The ash layer, though, marked the moment when a well-known group of Permian animals, the dicynodonts, started to disappear.

Dr Gastaldo asked Sandra Kamo, a geochronologist, to date this layer. She found, by plotting the decay of radioactive uranium into lead, that it is 253.5m years old. It was thus deposited more than 1.5m years before the Siberian eruptions started and the extinction in the oceans began. How the Permian really ended, and how long the extinction took, has therefore become even more mysterious than before. ■

Gene editing

Even CRISPR

A new way to edit DNA may speed the advance of genetic engineering

A FEW years ago, molecular biologists made a breakthrough. By borrowing an antiviral mechanism called CRISPR-Cas9 from bacteria, they created an easy way to tweak the genetic information in a cell's nucleus. This has implications for medicine and agriculture. Unfortunately, a dispute over who invented what parts of the technique first has threatened to curtail this potential. But that may not matter, for CRISPR-Cas9 turns out not to be the only way bacteria protect themselves from the attentions of viruses. In the latest edition of *Cell*, a group of researchers led by Feng Zhang of the Broad Institute in Cambridge, Massachusetts (who is one of the parties to the patent dispute), have announced their discovery of another such mechanism. Indeed, first indications suggest it may be even better than CRISPR-Cas9.

Like it, this mechanism, CRISPR-Cpf1, could become a tool that can deal with intractable genetic illnesses such as Huntington's, and degenerative conditions such as Alzheimer's. It might also be used to produce new classes of antiviral treatment, and thus curb infectious disease. Plant and animal breeders may find it useful, too, for creating new strains of crops and livestock. Indeed, because, like CRISPR-Cas9, it does not involve taking genes from one organism and implanting them in another, it will not count as "transgenic", a bugaboo of campaigners and customers alike.

CRISPR-Cas9 consists of a pair of enzymatic "scissors" (the Cas9) and a guide sequence of DNA (the CRISPR) that tells the scissors where to cut. The dispute over inventorship has caused some, though not all, potentially interested companies to give the technology a wide berth. Monsanto, a plant-breeding and agrochemicals firm, has gone on record as saying that it is reluctant to employ CRISPR-Cas9 widely until it understands the intellectual property concerned. Drug companies have also circled at a distance. CRISPR-Cpf1, which uses a different pair of scissors, may not suffer from these legal problems.

CRISPR-Cpf1 may be better than CRISPR-Cas9 in another way, too. Cpf1 is a smaller and simpler enzyme (known technically as an endonuclease) than Cas9. That means it will be easier to deliver to the cells whose genes need modifying.

CRISPR-Cpf1's discovery also raises the question of how many other endonuclease-based systems are out there in the world's bacteria. Viral infection is a serious threat to these microbes, and the natural job of both CRISPR-Cas9 and CRISPR-Cpf1 is to recognise viral genes and chop them up before they can do harm. Conversely, viruses are constantly evolving to escape such systems' attention, meaning bacteria need to generate new ones. The chances are good, therefore, that CRISPR-Cas9 and CRISPR-Cpf1 are not alone. As Dr Zhang himself puts it, "I can't even begin to count how many there may be. There really is great diversity that we as a scientific community should go out and explore."

The tools to carry out that exploration now exist. CRISPR-Cpf1, for instance, was found not by scrutinising bacteria directly, but by searching a published database of bacterial genetic sequences for promising-looking bits of DNA. This yielded two species that contain the new mechanism. Further searches might be equally rewarding—and as more gene-editing systems are discovered, it will be harder to monopolise their use via the patent system.

Despite the optimism of those who

think the new techniques may calm qualms about genetic engineering, people are bound to have ethical worries—especially when it comes to applying them to human embryos. Earlier this year, Chinese scientists used CRISPR-Cas9 on an embryo (albeit one that was unviable, and could not therefore have developed into a person). That provoked calls for a moratorium on this line of inquiry. On September 18th researchers in Britain applied for permission to edit genes in human embryos, as part of a study of human development. Such embryos would have to be left over from IVF treatment, and could be studied for no more than two weeks of development. Nor could they be implanted to create a pregnancy, or for any other clinical purpose. Movement in the research is halting. But the direction of travel is clear. ■

Extraterrestrial dowsing

Blue streaks on a red planet

The latest research bolsters the idea that water—or, at least, brine—flows on Mars

ASTRONOMERS know that Mars was once wet. There is plenty of evidence for that, from dried-up river valleys to the presence of chemicals that need water to form. Modern Mars, though, is a freezing desert. In the 4.5 billion years since the planet came into existence, a sizeable chunk of its water has boiled away into space, another chunk is thought to have seeped deep into its interior, and what little remains on or near the surface has frozen solid. That is depressing for those who seek Martians, even bacterial ones, for most biologists agree that liquid water is a *sine qua non* of life.

But Mars may not be entirely dry. Over the past few years evidence has accumulated that water still trickles over its surface from time to time. And a paper just published in *Nature Geoscience* by Lujendra Ojha of the Georgia Institute of Technology, in Atlanta, and his colleagues offers the most convincing proof yet.

In 2011 Mr Ojha, then an undergraduate student at the University of Arizona, spotted dark streaks on the walls of certain Martian craters that had been photographed from orbit by a satellite called *Mars Reconnaissance Orbiter*. These, he noticed, seemed to wax and wane with the Martian seasons—darkening in summer and fading in winter. Though he cautiously dubbed the streaks "recurrent slope lineae", or RSLs, rather than giving them a name that included the "w" word or anything connected with it, he nevertheless suspected that water was their cause.

The surface temperature on Mars only rarely rises above pure water's freezing point, but researchers know that chemicals which have been detected in the regolith (the crushed rock that passes for soil on Mars) can act as antifreeze. That might depress the freezing point of brine containing them to one which, at least in summer, permitted such brine to stay liquid. The summer darkening of the RSLs, he thought, was caused by brine of this nature flowing. The winter lightening, conversely, was caused by it freezing again. Rough-and-ready modelling suggested the streaks were growing and fading at approximately the right rate for this hypothesis to be correct.

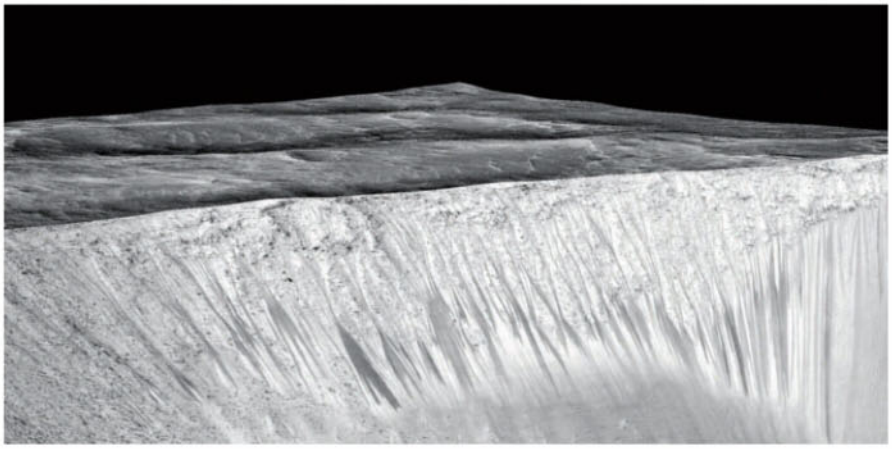
Mr Ojha's latest paper examines the question in detail. He and his colleagues used spectroscopy to examine four RSLs from various parts of Mars. This technique lets researchers work out a substance's composition from the light it reflects. The results suggest the streaks contain compounds (specifically, magnesium perchlorate, magnesium chlorate and sodium perchlorate) that are excellent antifreezes, which would be able to lower water's melting point by more than 70°C. That would be enough for ice containing them to melt in the Martian summer. Moreover, all of these substances form by the action of water on other minerals, bolstering the case that the RSLs are intermittent streams.

Mr Ojha is careful to point out that he has not detected water directly (a more cautious approach than the one taken at a press conference called by NASA to publicise the story), and that even what he has detected is at the limits of what *Mars Reconnaissance Orbiter* can accomplish. But the presence of compounds that need water to form, as well as acting as antifreezes, is powerful indirect evidence. The case for there being liquid water—or, at least, brine—on modern Mars has thus become almost unequivocal.

Details remain to be worked out, including where the water in question comes from. Subsurface ice is one possibility. Another is that it might condense out of Mars's atmosphere, though this is both thin and dry. Whatever its origin, though, the amounts in question are modest in the extreme. But even small amounts of water are intriguing to biologists. If Martians did manage to evolve during their planet's earlier, wetter phase, the continued presence of water means it is just about possible that a few especially hardy types have survived until the present day—clinging on in dwindling pockets of dampness in the way that some "extremophile" bacteria on Earth are able to live in cold, salty and arid environments.

Looking for Martians will be harder than looking for water. Spotting bacteria from orbit is beyond the capabilities of any probe that engineers know how to build, and even analysing samples on the surface is fraught with difficulty. NASA has two rovers trundling around the Martian surface, but sending them to investigate is forbidden by NASA's "planetary protection" rules. The worry is that the machines may play host to Earthly extremophiles that have survived the trip to Mars. If so, investigating the water risks contaminating the sample. At best, that could interfere with the readings. At worst it could damage the first alien ecosystem to be discovered.

Other rovers are coming. NASA plans to send one to arrive in 2020. At the moment that rover too would be forbidden from going anywhere near liquid water. Designing and launching an uncontaminated probe would be tricky. But finding a way to look at some RSLs up close is now top of every Mars scientist's to-do list. ■



The unusual channels

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Henry Kissinger

Ideas man

America's greatest modern diplomat was also one of its great thinkers

Kissinger: The Idealist, 1923-1968. By Niall Ferguson. *Penguin Press; 1008 pages; $39.95. Allen Lane; £35*

NOBODY divides opinion like Henry Kissinger. As national security adviser and then secretary of state, under presidents Richard Nixon and Gerald Ford, Mr Kissinger was both a media superstar and disowned by his former colleagues from Harvard. In 1973 he won the Nobel peace prize; yet critics like Christopher Hitchens insisted he deserved to stand trial for crimes against humanity. Mr Kissinger has been lionised as America's supreme 20th-century diplomat. However, after he left office in 1977 at the age of just 53, no president ever again trusted him with a senior job.

Into this contested ground strides Niall Ferguson, with the first, magisterial instalment of a two-volume biography. Mr Ferguson, a British historian also at Harvard, has in the past sometimes produced work that is rushed and uneven. Not here. Like Mr Kissinger or loathe him, this is a work of engrossing scholarship.

Three conclusions lie at the heart of Mr Ferguson's analysis. The first, and the bravest, is that the period before Mr Kissinger became a statesman is worth a volume all to itself. That turns out to be inspired. It creates room for a harrowing account of the Nazis' indoctrination of Fürth, the Kissingers' hometown in Bavaria, and the deepening persecution that so much of its Jewish population, including Mr Kissinger's father, found almost impossible to comprehend. Mr Ferguson goes on to describe Mr Kissinger's intellectual development after the second world war. Here, seen through the letters, articles and books of a first-class mind, is a gripping commentary on the geopolitics of the 1950s and 1960s, including the quagmire in Vietnam and the struggle with Soviet Russia over Berlin and Cuba.

This leads to Mr Ferguson's second conclusion: that Mr Kissinger matters because of his ideas. The contrast is with Walter Isaacson's celebrated biography, which analyses its subject chiefly in terms of his—flawed—character. Because he is concerned with ideas, Mr Ferguson has read Mr Kissinger's works with great care. He is thus able to skewer simplistic claims that the professor is essentially a devotee of Machiavelli or a simple exponent of the 19th-century European balance-of-power politics that he wrote about.

Instead Mr Ferguson sets out how academic study and experience on the fringes of the Kennedy and Johnson administrations forged the views of government that Mr Kissinger would later carry with him into the White House. Most important is a scathing scepticism of bureaucracies—especially the State Department—because they pursue their own agenda, gravitate towards the middle ground and drown decision-makers in paperwork. Successful government means escaping their influence.

Mr Kissinger came to see statesmen as "tragic" figures, forced to choose between unpalatable alternatives. Decisions are usually best taken early, because incoming evidence continually narrows the options. The tragedy is that nobody appreciates the disasters statesmen avoid. Johnson, for example, would always be blamed for expanding the Vietnam war, but had he abandoned South Vietnam in 1965, as some advised, the dominoes in South-East Asia might have fallen as country after country surrendered to communism.

This focus on ideas leads to the book's third conclusion. As the title underlines, Mr Ferguson thinks that, during this part of his life, the man usually taken to embody cold-war realpolitik was in fact an idealist. Readers may not be convinced.

To most people, an idealist is someone who stands by a moral principle, come what may. In foreign-policy scholarship, the term is associated with Woodrow Wilson's notion of subordinating power to international rules. It is not always clear which definition Mr Ferguson is using. At times, he bases his claim for Kissingerian idealism on a highly technical allusion to the moral philosophy of Immanuel Kant. He wins the argument only by turning "idealism" into something that will fully satisfy neither lay nor scholarly readers.

More interesting are the episodes where he cites the principled arguments Mr Kissinger uses against hard-nosed pragmatists—for example, during Kennedy's presidency, when he called for America to insist that the universal principle of self-determination should apply to Berlin, then partially under Russia's thumb.

That certainly sounds like idealism. Yet Mr Kissinger understood that the appeal of communism was justice. He believed that to counter it the United States needed to promote ideals of its own. Mr Ferguson never manages to dispel the impression that for Mr Kissinger freedom and self-determination were not sacred principles in themselves, but tools provided by American political culture to be exploited by a ruthless tactician in the contest against revolutionary communism.

Mr Ferguson is able to portray Mr Kissinger as an idealist partly because he has so little to say about the professor's machinations in the pursuit and manipulation of power. Such behaviour was to be on lurid display in the Nixon White House. The much-awaited second volume will not so easily pass over it. ■

Artificial intelligence

Machines for thinking

Computers will get smarter, but with humans in charge

Machines of Loving Grace: The Quest for Common Ground Between Humans and Robots. By John Markoff. *Ecco; 400 pages; $26.99*

The Master Algorithm: How the Quest for the Ultimate Learning Machine Will Remake Our World. By Pedro Domingos. *Basic Books; 352 pages; $29.99. Allen Lane; £20*

Humans Need Not Apply: A Guide to Wealth and Work in the Age of Artificial Intelligence. By Jerry Kaplan. *Yale University Press; 256 pages; $35, £20*

ARTIFICIAL INTELLIGENCE (AI) is quietly everywhere, powering Google's search engine, Amazon's recommendations and Facebook's facial recognition. It is how post offices decipher handwriting and banks read cheques. But several books in recent years have spewed fire and brimstone, claiming that algorithms are poised to obliterate white-collar knowledge-work in the 21st century, just as automation displaced blue-collar manufacturing work in the 20th. Some people go further, arguing that artificial intelligence threatens the human race. Elon Musk, an American entrepreneur, says that developing the technology is "summoning the demon".

Now several new books serve as replies. In "Machines of Loving Grace", John Markoff of the *New York Times* focuses on whether researchers should build true artificial intelligence that replaces people, or aim for "intelligence augmentation" (IA), in which the computers make people more effective. This tension has been there from the start. In the 1960s, at one bit of Stanford University John McCarthy, a pioneer of the field, was gunning for AI (which he had named in 1955), while across campus Douglas Engelbart, the inventor of the computer mouse, aimed at IA. Today, some Google engineers try to improve search engines so that people can find information better, while others develop self-driving cars to eliminate drivers altogether.

Mr Markoff focuses on the personalities, since technology depends on the values of its creators. The human element makes the subject accessible. (His chapter on the history of AI is superb.) But he spends little time on how AI actually works, and philosophical themes—such as the meaning of reliance on machines—are raised before being dropped too soon.

At the start, AI was about coding the rules of logic into software. But that failed at bigger tasks. A different approach gave the computers data and got them using probability to infer, say, what film to recommend. It worked poorly at first, but improved as computers got better and were fed more data. Called "machine learning", it is why computer translation and speech recognition are no longer so laughable.

Pedro Domingos's "The Master Algorithm" is focused on explaining to a general reader how machine-learning works. The book does a good job of examining the field's five main techniques: symbolic reasoning, connections modelled on the brain's neurons, evolutionary algorithms that test variation, Bayesian inference (updating probabilities with new information) and systems that learn by analogy.

The subject is meaty and the author, a professor at the University of Washington, has a knack for introducing concepts at the right moment. But in Mr Domingos's zeal to simplify he constantly invents metaphors that grate or confuse. He prefers to use imaginary examples to explain the technology rather than actual, cutting-edge work, which is a missed opportunity.

A terrific balance between delightful stories and thoughtful analysis is found in Jerry Kaplan's relatively short book, "Humans Need Not Apply". An entrepreneur and AI expert (he is one of the personalities in Mr Markoff's story), Mr Kaplan has done some serious thinking about how AI will transform business, jobs and most interestingly, the law. The book glimmers with originality and verve.

He starts from the idea that the technology creates "forged labourers" and "synthetic intellects" that will do the jobs of people. (One lawyer has already set up the firm Robot, Robot & Hwang.) He delves into fascinating areas such as legal liability when robots err. There is a deep look at the growing income inequality between a small cadre of Silicon Valley elites (himself included) and the rest.

Others have raised these issues, but Mr Kaplan is unique in devising solutions. To the problem of skills not being well matched to the needs of businesses, he proposes a "job mortgage". Companies would agree to hire a person in future in return for a tax break; the person would take out a loan against the future income to pay for the training. This way, educational institutions get clearer economic signals about what skills they should teach.

To lessen income inequality, Mr Kaplan gets even more inventive. Companies would get tax breaks if their shares are broadly owned, using a measure he bases on the Gini coefficient. The American government would let people choose the firms where some of their Social Security (national pension) funds would be invested. Spreading stock ownership, Mr Kaplan reckons, will diffuse the gains from companies that, using AI, make oodles of money but employ few.

All three authors are optimistic that society will find a way to live with AI, with not a killer robot in sight. Mr Domingos ponders a new set of Geneva protocols: banning humans from fighting. As for truly autonomous robots, Mr Markoff quotes a software designer: we'll know they exist when rather than going to work, they go to the beach instead. ■

Asian-American history

Tiger ancestors

The Making of Asian America: A History. By Erika Lee. *Simon & Schuster; 528 pages; $29.95, £19.77*

IN NOVEMBER 1834, hundreds of New Yorkers paid 50 cents to look at Afong Moy. Moy, the first Chinese woman to arrive in America, was imported by Nathaniel and Frederick Carne, who hoped that her presence would make the shawls, backgammon boards, fans and other Chinese goods that the brothers were selling seem even more alluring. There she sat, her feet bound and her skin pale, from 10am to 2pm and then again from 5pm to 9pm, day after day, the performance occasionally enlivened when the living mannequin picked up chopsticks or spoke Chinese. Whether this marketing ploy was a success was not recorded; neither was Ms Moy's later fate. After she was taken off display she toured the east coast, met Andrew Jackson in the White House and then vanished into obscurity.

Her tale is both unusual and, in some ways, typical of the story of early Asian America. Compared with immigration from Europe and forced migration from Africa, Asian migration to America began relatively late, after people from other places had already written rules to protect their own. It was built on false hope—the majority of migrants from China, Japan and Korea came as indentured labourers, expecting something more lucrative than the plantation work that awaited them. The 20,000 Chinese who set out for California in 1852 referred to their destination as "Gold Mountain". Many ended up working in laundries.

Despite this, many of these immigrant tales seem to have ended happily. The history of Asian America is, ultimately, a story of opportunity seized; of America's promise to newcomers fulfilled. Even so, if readers pick up Erika Lee's book expecting to read nothing more than a proud chapter in the nation's history they will quickly be corrected.

One of Ms Lee's recurring themes is the parallel experience of African- and Asian-Americans, starting with the long, dangerous journey across the ocean. The rate at which Chinese coolies sailing to Cuba died on the way rivalled the 20% mortality rate suffered by African slaves during the Middle Passage (though in absolute terms the numbers were much lower). Though never enslaved, Asian labourers were treated harshly: according to a contemporary estimate, at least 1,200 died building the transcontinental railway. In 1871, 17 Chinese were lynched in Los Angeles after a policeman was shot (though not killed) by a Chinese resident, the bloodiest single episode of mob justice in the country's history. Koreans who arrived in California in the 1920s found themselves refused service in restaurants and barber shops and forced to sit in segregated areas in movie theatres.

This analogy with black history provokes a question which Ms Lee, a professor at the University of Minnesota, prefers to avoid. American universities tend to discriminate in favour of African-Americans, a practice justified in part with reference to the unique awfulness of the first three centuries of black history: the humiliation and violence of slavery, the unjustness of Jim Crow and the subsequent herding of fugitives from the South into ghettos in northern cities. But positive discrimination for one group necessarily means taking away from another one, a cost which, in the Ivy League at least, is often paid by Asian-Americans. (See Briefing in this issue.)

If it were possible to calculate a quantum of misery, then black America would ▸▸

German football

The making of a Fussballwunder

Das Reboot. By Raphael Honigstein. *PublicAffairs; 288 pages; $17.99. Yellow Jersey; £18.99*

ALMOST half of the goals scored in football are virtually random, reckons Martin Lames of the Technical University of Munich. And football's best loved narratives—the come-from-behind win, the giant-killing—are those that upset expectations. But Raphael Honigstein's new book "Das Reboot" focuses on the bits of the game that are not random, and how a well prepared team faces anything but a coin-flip.

After a long period as a footballing superpower, the German side became complacent. The nadir was the European Championships in 2000, when it failed to win a game, even losing to England in a match Mr Honigstein describes as "an all-round embarrassment of footballing poverty". 14 years later, Germany would humiliate Brazil, the World Cup hosts, 7-1 before defeating Argentina to take home the trophy.

Nothing random about it

Mr Honigstein's tale is of unsung innovators as well as national heroes. Dietrich Weise and Ulf Schott, two former players turned officials at the national football association, became convinced that Germany needed to expand its youth programmes. After the Euro 2000 debacle, Germany's top professional clubs were ordered to set up academies. They were initially resistant to the financial burden, but after ten years, more than half of the players in the top division were academy graduates, saving clubs millions on transfer fees.Coaching also evolved, with the appointment of a former international striker, Jürgen Klinsmann, to the national team in 2004. He irritated many by commuting from California, but he brought a new focus on the mind: Mr Honigstein describes quasi-"management seminars", with team-building and language classes alongside football. But he also got his limited talent playing a fast, attacking football that was a hit when Germany hosted the 2006 World Cup, which one player described as "Germany's Summer of Love". The third-place finishers were thronged at the Brandenburg Gate.

By 2014, Mr Klinsmann had handed over to his former assistant, Joachim Löw, but the team was stocked with players who had had Klinsmann-style training since childhood. One such exercise was the Footbonaut, which fires balls at different speeds and trajectories at players, who must control and pass the ball into a highlighted square until it becomes second nature. Mario Götze (pictured) used the machine for years at his club. In the 2014 World Cup final, he controlled a cross with his chest and volleyed the ball into the net, winning the championship with an exact replica of the training the machine provided. It was "one fluid, instant motion", a successfully fulfilled plan to defeat randomness.

surely come out on top. But when reading about episodes such as the bombing of the Filipino Federation of America building in Stockton, California, in 1930 by a group of white youths, the distinction tends to blur.

Asian-Americans rightly resist the notion that their success, measured by educational attainment and income, proves that anyone who does not make it in America is a loser. But the puzzle of Asian overachievement, which fascinates and occasionally alarms American parents of all hues, merits more attention than it gets here. For various reasons, immigrants from China, Japan and Korea have thrived in America, outshining groups descended from other ancestors. Yet the Hmong, who arrived in the 1970s and 1980s, by contrast, have struggled. After 400 pages, the reasons why this is so remain mysterious. ■

The Wadsworth Atheneum

Temple of delight

HARTFORD, CONNECTICUT

A newly renovated jewel of a museum makes a virtue out of limitations

ON THE night of February 7th 1934, the heart of the avant-garde in America could be found in Hartford, Connecticut, a midsized city better known as the headquarters of insurance giants than as a hotbed of cultural innovation. What caused the glitterati to make the more-than-100-mile trek north from New York city—some by limousine, others by private railway car, this in the depths of the Great Depression—was the world premiere of "Four Saints in Three Acts", an opera with music by Virgil Thomson, libretto by Gertrude Stein, and featuring (daringly for the times) an all-black cast. Those in attendance included such social luminaries as Clare Booth and Abby Aldrich Rockefeller, and members of the cultural elite such as Buckminster Fuller and Alexander Calder.

The venue was the Wadsworth Atheneum, where a just-completed $33m renovation has refocused interest on a venerable institution. Founded in 1842, the Wadsworth is America's oldest continually operating museum. In the 1930s, its pioneering director A. Everett "Chick" Austin junior made it showcase for cutting-edge art. While waiting for the opera to begin, audience members could stroll through the third-floor galleries and take in the first major exhibition that side of the Atlantic of an artist unfamiliar to most Americans but already famous in Europe as the leader of the modernist movement—a Spaniard by the name of Pablo Picasso. Fifty years later, the architect Philip Johnson recalled the excitement of that evening. "I had the feeling", he said, "that I was in the centre of absolutely everything."

Today, if the Wadsworth Atheneum doesn't quite feel like the centre of everything, it is, especially after its renovation, still one of the most interesting museums in North America. Situated almost exactly halfway between two of America's great encyclopedic institutions—the Museum of Fine Arts in Boston and the Metropolitan in New York—the Atheneum cannot compete with either in the breadth or depth of its collections. But this can be a virtue. Given a collection with both major highs and glaring holes, the Wadsworth exudes a distinctive personality free of the compulsion to Hoover up everything in sight. As Oliver Tostmann, the Wadsworth's curator of European art, puts it, "The story we tell is a little more idiosyncratic, more eccentric."

At the Wadsworth, the accidents of history and the obsessions of its directors are plainly visible. Not surprisingly, given its New England home, it has one of the world's great collections of Hudson River School landscapes. Paintings by Thomas Cole, Frederic Edwin Church and their colleagues have been there from the beginning, but the 50,000-object collection has grown over the years in surprising directions. The Wadsworth's extensive holdings of decorative art, Italian majolica, and porcelain from Meissen and Sèvres—now displayed for greatest impact and explanatory power alongside contemporary paintings—reflect the tastes of John Pierpont Morgan, the great financier and patron who donated much of his collection to the museum.

The Wadsworth's strength in early Baroque painting, including a stunning "St Francis of Assisi in Ecstasy" by Caravaggio and a brooding, nocturnal "Crucifixion" by Nicolas Poussin, reveal Chick Austin's peculiar obsession with night scenes. Because his acquisitions budget could not compete with those of larger institutions, he had to spot the next big thing before it happened. The Caravaggio, which Austin nabbed for a bargain price of $17,000 in 1942, was the first by that then-underappreciated artist to enter an American collection. Austin also used his discerning eye to snap up the work of his contemporaries before others saw their potential. The Wadsworth was the first American museum to acquire works by Miró, Mondrian, Balthus and Dalí.

The heart of the museum is the Great Hall, where paintings by major figures (Tintoretto, Luca Giordano, Albert Cuyp, Benjamin West) are hung salon-style, sometimes three or four high on the wall. The self-referential logic of the apparently chaotic installation becomes apparent when one catches sight of Giovanni Paolo Panini's painting of the picture gallery of Cardinal Silvio Valenti Gonzaga (1749, pictured), which seems to reproduce, in miniature, the overstuffed visual feast of the hall itself.

A similar sense of institutional introspection comes in a gallery that recreates an 18th-century Wunderkammer, where natural curiosities like nautilus shells and rock crystals are displayed alongside man-made wonders—Egyptian jewellery, Venetian glass and Persian manuscripts. This room embodies the Enlightenment mania for collecting and classifying out of which the modern museum (as well as much of modern science) emerges. Packed with exquisite objects and unexpected delights, the room seems a microcosm of this museum, filled with quirks, character and plenty of surprises. ■

"See anything you like?"

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       3. Paid Distribution Outside the Mails Including Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and other Paid Distribution Outside USPS: 144,158
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    c. Total Paid Distribution: 756,816
    d. Free or Nominal Rate Outside Distribution:
       1. Free or Nominal Rate Outside-County Copies Included on PS Form 3541: 979
       2. Free or Nominal Rate In-County Copies Included on PS Form 3541: N/A
       3. Free or Nominal Rate Copies Mailed at Other Classes Through the USPS: N/A
       4. Free or Nominal Rate Distribution Outside the Mail: N/A
    e. Total Free or Nominal Rate Distribution: 979
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    g. Copies not Distributed: 55,912
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    i. Percent Paid: 99.9%
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       1. Mailed Outside-County Paid Subscriptions Stated on PS Form 3541: 586,712
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       3. Paid Distribution Outside the Mails Including Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and other Paid Distribution Outside USPS: 165,122
       4. Paid Distribution by Other Classes of Mail Through the USPS: N/A
    c. Total Paid Distribution: 751,834
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       1. Free or Nominal Rate Outside-County Copies Included on PS Form 3541: 854
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       3. Free or Nominal Rate Copies Mailed at Other Classes Through the USPS: N/A
       4. Free or Nominal Rate Distribution Outside the Mail: N/A
    e. Total Free or Nominal Rate Distribution: 854
    f. Total Distribution: 752,688
    g. Copies not Distributed: 42,485
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Economic and financial indicators

Economic data

% change on year ago

	Gross domestic product			Industrial production	Consumer prices		Unemployment	Current-account balance		Budget balance	Interest rates, %	Currency units, per $	
	latest	qtr*	2015†	latest	latest	2015†	rate, %	latest 12 months, $bn	% of GDP 2015†	% of GDP 2015†	10-year gov't bonds, latest	Sep 30th	year ago
United States	+2.7 Q2	+3.9	+2.4	+0.9 Aug	+0.2 Aug	+0.4	5.1 Aug	-429.0 Q2	-2.6	-2.6	2.07	-	-
China	+7.0 Q2	+7.0	+6.9	+6.1 Aug	+2.0 Aug	+1.5	4.0 Q2§	+287.8 Q2	+3.0	-2.7	3.09§§	6.36	6.14
Japan	+0.8 Q2	-1.2	+0.8	+0.2 Aug	+0.2 Aug	+0.7	3.3 Jul	+107.8 Jul	+2.7	-6.8	0.34	120	110
Britain	+2.4 Q2	+2.6	+2.5	+0.8 Jul	nil Aug	+0.2	5.5 Jun††	-149.2 Q2	-4.8	-4.4	1.81	0.66	0.62
Canada	+1.0 Q2	-0.5	+1.4	-1.1 Jul	+1.3 Aug	+1.1	7.0 Aug	-48.5 Q2	-2.9	-1.8	1.43	1.33	1.12
Euro area	+1.5 Q2	+1.4	+1.4	+1.9 Jul	-0.1 Sep	+0.2	11.0 Aug	+316.9 Jul	+2.6	-2.1	0.59	0.89	0.79
Austria	+0.5 Q2	-2.6	+0.7	+1.3 Jul	+1.0 Aug	+1.0	5.7 Aug	+10.7 Q2	+1.4	-2.1	0.90	0.89	0.79
Belgium	+1.3 Q2	+1.7	+1.3	+0.7 Jul	+1.1 Sep	+0.4	8.8 Aug	-5.8 Jun	+1.7	-2.6	0.95	0.89	0.79
France	+1.1 Q2	nil	+1.1	-0.8 Jul	nil Aug	+0.2	10.8 Aug	-6.0 Jul‡	-0.7	-4.1	1.00	0.89	0.79
Germany	+1.6 Q2	+1.8	+1.7	+0.4 Jul	nil Sep	+0.4	6.4 Sep	+280.5 Jul	+7.6	+0.7	0.59	0.89	0.79
Greece	+1.7 Q2	+3.7	+0.5	-1.3 Jul	-1.5 Aug	-1.1	25.2 Jun	-1.3 Jul	+2.5	-4.1	8.46	0.89	0.79
Italy	+0.7 Q2	+1.3	+0.6	+2.7 Jul	+0.3 Sep	+0.2	11.9 Aug	+38.5 Jul	+2.0	-2.9	1.73	0.89	0.79
Netherlands	+1.8 Q2	+0.8	+1.8	+0.6 Jul	+0.8 Aug	+0.4	8.5 Aug	+85.3 Q2	+9.2	-1.8	0.80	0.89	0.79
Spain	+3.1 Q2	+4.1	+3.0	+5.9 Jul	-0.9 Sep	-0.3	22.2 Aug	+19.6 Jul	+0.8	-4.4	1.90	0.89	0.79
Czech Republic	+4.6 Q2	+4.4	+3.4	+4.6 Jul	+0.3 Aug	+0.3	6.2 Aug§	+2.4 Q2	-0.1	-1.8	0.68	24.3	21.8
Denmark	+2.0 Q2	+0.6	+1.8	+0.8 Jul	+0.5 Aug	+0.7	4.5 Aug	+21.1 Jul	+6.8	-2.9	0.85	6.68	5.89
Norway	+2.2 Q2	-0.4	+0.7	+4.0 Jul	+2.0 Aug	+1.7	4.3 Jul‡‡	+37.8 Q2	+9.3	+5.9	1.51	8.52	6.42
Poland	+3.6 Q2	+3.6	+3.4	+5.3 Aug	-0.8 Sep	nil	10.0 Aug§	-3.0 Jul	-1.4	-1.5	2.85	3.80	3.31
Russia	-4.6 Q2	na	-3.6	-4.2 Aug	+15.8 Aug	+14.8	5.3 Aug§	+65.0 Q2	+4.9	-2.8	10.98	65.3	39.6
Sweden	+3.3 Q2	+4.6	+2.7	-1.9 Jul	-0.2 Aug	+0.1	6.4 Aug§	+35.1 Q2	+6.5	-1.2	0.69	8.37	7.21
Switzerland	+1.2 Q2	+1.0	+0.7	-2.5 Q2	-1.4 Aug	-1.0	3.3 Aug	+60.9 Q2	+7.2	+0.2	-0.10	0.97	0.96
Turkey	+3.8 Q2	na	+2.8	+1.5 Jul	+7.1 Aug	+7.3	9.6 Jun§	-45.0 Jul	-4.7	-1.6	10.99	3.03	2.28
Australia	+2.0 Q2	+0.7	+2.4	+1.2 Q2	+1.5 Q2	+1.7	6.2 Aug	-47.4 Q2	-3.2	-2.4	2.61	1.42	1.14
Hong Kong	+2.8 Q2	+1.6	+2.4	-1.3 Q2	+2.5 Aug	+3.1	3.3 Aug‡‡	+7.4 Q2	+2.8	nil	1.59	7.75	7.77
India	+7.0 Q2	+7.0	+7.5	+4.2 Jul	+3.7 Aug	+5.3	4.9 2013	-25.9 Q2	-1.2	-3.8	7.54	65.5	61.9
Indonesia	+4.7 Q2	na	+4.8	+5.7 Jul	+7.2 Aug	+6.4	5.8 Q1§	-21.6 Q2	-2.4	-2.0	9.79	14,594	12,185
Malaysia	+4.9 Q2	na	+5.4	+6.1 Jul	+3.1 Aug	+2.5	3.2 Jul§	+8.8 Q2	+2.5	-4.0	4.24	4.39	3.27
Pakistan	+5.5 2015**	na	+5.7	+4.7 Jul	+1.7 Aug	+3.9	6.0 2014	-2.6 Q2	-0.7	-5.1	9.15†††	104	103
Philippines	+5.6 Q2	+7.4	+6.4	-0.5 Jul	+0.6 Aug	+2.4	6.5 Q3§	+11.7 Jun	+4.1	-1.9	3.80	46.7	45.0
Singapore	+1.8 Q2	-4.0	+2.9	-7.1 Aug	-0.8 Aug	+0.2	2.0 Q2	+69.5 Q2	+21.2	-0.7	2.54	1.42	1.28
South Korea	+2.2 Q2	+1.3	+2.6	+0.3 Aug	+0.7 Aug	+0.9	3.4 Aug§	+104.3 Jul	+7.8	+0.3	2.06	1,185	1,055
Taiwan	+0.5 Q2	-6.6	+3.4	-5.5 Aug	-0.4 Aug	+0.2	3.7 Aug	+72.8 Q2	+12.8	-1.1	1.15	33.0	30.4
Thailand	+2.8 Q2	+1.5	+3.5	-8.3 Aug	-1.2 Aug	+0.8	1.0 Aug§	+24.4 Q2	+2.4	-2.0	2.77	36.4	32.4
Argentina	+2.3 Q2	+2.0	nil	+0.5 Aug	— ***	—	6.6 Q2§	-8.3 Q2	-1.4	-3.6	na	9.42	8.43
Brazil	-2.6 Q2	-7.2	-1.9	-9.0 Jul	+9.5 Aug	+8.6	7.6 Aug§	-84.5 Aug	-4.1	-6.0	15.47	3.96	2.45
Chile	+1.9 Q2	nil	+2.8	-5.1 Aug	+5.0 Aug	+3.9	6.5 Aug§‡‡	-0.3 Q2	-1.2	-2.2	4.58	696	598
Colombia	+3.0 Q2	+2.4	+3.3	+0.3 Jul	+4.7 Aug	+4.2	9.1 Aug§	-20.8 Q2	-6.7	-2.1	8.03	3,088	2,025
Mexico	+2.2 Q2	+2.0	+2.5	+0.7 Jul	+2.6 Aug	+2.9	4.3 Aug	-25.3 Q2	-2.5	-3.4	5.99	16.9	13.4
Venezuela	-2.3 Q3	+10.0	-4.2	na	+68.5 Dec	+76.4	6.6 May§	+10.3 Q3	-1.8	-16.5	10.48	6.30	6.35
Egypt	+4.3 Q4	na	+4.2	+6.0 Jul	+7.9 Aug	+10.0	12.7 Q2§	-12.2 Q2	-1.4	-11.0	na	7.83	7.15
Israel	+1.8 Q2	+0.1	+3.3	+1.1 Jul	-0.4 Aug	-0.2	5.3 Aug	+10.2 Q2	+4.9	-2.8	2.20	3.92	3.68
Saudi Arabia	+3.5 2014	na	+2.7	na	+2.1 Aug	+2.7	5.7 2014	+39.7 Q1	-2.7	-12.7	na	3.75	3.75
South Africa	+1.2 Q2	-1.3	+1.8	+5.6 Jul	+4.6 Aug	+4.8	25.0 Q2§	-15.6 Q2	-5.1	-3.8	8.46	13.9	11.3

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.

Markets

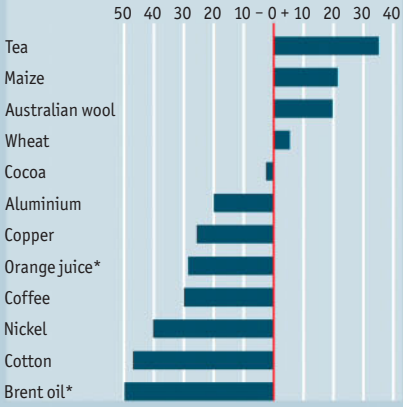
	Index Sep 30th	% change on one week	Dec 31st 2014 in local currency	Dec 31st 2014 in $ terms
United States (DJIA)	16,284.7	nil	-8.6	-8.6
China (SSEA)	3,197.4	-2.0	-5.7	-7.9
Japan (Nikkei 225)	17,388.2	-3.8	-0.4	-0.3
Britain (FTSE 100)	6,061.6	+0.5	-7.7	-10.3
Canada (S&P TSX)	13,307.0	-0.6	-9.1	-21.4
Euro area (FTSE Euro 100)	1,035.4	+0.7	-0.1	-7.9
Euro area (EURO STOXX 50)	3,100.7	+0.7	-1.5	-9.1
Austria (ATX)	2,229.5	+1.1	+3.2	-4.8
Belgium (Bel 20)	3,344.5	-0.3	+1.8	-6.1
France (CAC 40)	4,455.3	+0.5	+4.3	-3.8
Germany (DAX)*	9,660.4	+0.5	-1.5	-9.1
Greece (Athex Comp)	654.2	-2.1	-20.8	-27.0
Italy (FTSE/MIB)	21,295.0	+1.1	+12.0	+3.3
Netherlands (AEX)	421.1	+0.5	-0.8	-8.5
Spain (Madrid SE)	966.1	+0.9	-7.3	-14.5
Czech Republic (PX)	971.1	+1.1	+2.6	-3.5
Denmark (OMXCB)	825.2	-1.7	+22.2	+12.5
Hungary (BUX)	20,894.0	+1.0	+25.6	+16.8
Norway (OSEAX)	622.7	+1.2	+0.5	-11.7
Poland (WIG)	49,824.6	-0.7	-3.1	-9.5
Russia (RTS, $ terms)	789.7	+1.0	+9.2	-0.1
Sweden (OMXS30)	1,416.9	-0.3	-3.3	-9.7
Switzerland (SMI)	8,513.4	+0.8	-5.2	-3.6
Turkey (BIST)	74,205.4	-0.5	-13.4	-33.2
Australia (All Ord.)	5,058.6	+0.5	-6.1	-19.3
Hong Kong (Hang Seng)	20,846.3	-2.1	-11.7	-11.6
India (BSE)	26,154.8	+1.3	-4.9	-8.5
Indonesia (JSX)	4,223.9	-0.5	-19.2	-31.7
Malaysia (KLSE)	1,621.0	+0.5	-8.0	-26.8
Pakistan (KSE)	32,287.4	-1.6	+0.5	-3.3
Singapore (STI)	2,790.9	-1.9	-17.1	-22.7
South Korea (KOSPI)	1,962.8	+0.9	+2.5	-5.0
Taiwan (TWI)	8,181.2	-0.1	-12.1	-15.6
Thailand (SET)	1,349.0	-1.9	-9.9	-18.4
Argentina (MERV)	9,814.6	+3.1	+14.4	+2.8
Brazil (BVSP)	45,059.3	-0.6	-9.9	-39.8
Chile (IGPA)	18,056.2	-1.0	-4.3	-16.8
Colombia (IGBC)	9,282.7	+0.4	-20.2	-38.6
Mexico (IPC)	42,632.5	-1.0	-1.2	-14.1
Venezuela (IBC)	11,872.9	-3.2	+208	na
Egypt (Case 30)	7,332.9	+0.7	-17.9	-25.0
Israel (TA-100)	1,300.4	-5.8	+0.9	nil
Saudi Arabia (Tadawul)	7,404.1	-0.5	-11.1	-11.1
South Africa (JSE AS)	50,088.9	-0.6	+0.6	-15.8

Commodities

Excess supply and fears about slowing Chinese investment have caused commodity prices to fall throughout the past year. Copper has been particularly affected: flagging industrial activity in China means less demand for copper pipes and cables. Brent crude-oil prices have also been hit. Although shale-oil production in the United States has slowed, oversupply is still reckoned at one million barrels a day. The prices of orange juice, coffee and cotton have fallen, too. But it's not all bad news. Hailstorms in Kenya earlier this year reduced tea supplies and pushed prices up. Another bright spot is Australian wool, where a weak Aussie dollar and strong Chinese clothing sales created higher demand for the commodity.

Selected commodity prices

% change, September 2014 to September 2015, $ terms



Sources: Thomson Reuters; *The Economist*

*Not in *The Economist* commodity-price index

Other markets

	Index Sep 30th	% change on one week	Dec 31st 2014 in local currency	Dec 31st 2014 in $ terms
United States (S&P 500)	1,920.0	-1.0	-6.7	-6.7
United States (NAScomp)	4,620.2	-2.8	-2.4	-2.4
China (SSEB, $ terms)	309.7	-0.1	+9.1	+6.5
Japan (Topix)	1,411.2	-3.5	+0.3	+0.4
Europe (FTSEurofirst 300)	1,370.5	+0.3	+0.1	-7.6
World, dev'd (MSCI)	1,581.9	-0.9	-7.5	-7.5
Emerging markets (MSCI)	792.0	nil	-17.2	-17.2
World, all (MSCI)	381.7	-0.8	-8.5	-8.5
World bonds (Citigroup)	880.8	+0.3	-2.4	-2.4
EMBI+ (JPMorgan)	692.1	-0.8	+0.1	+0.1
Hedge funds (HFRX)	1,175.6§	-1.7	-3.5	-3.5
Volatility, US (VIX)	24.5	+22.1	+19.2	(levels)
CDSs, Eur (iTRAXX)†	91.7	+14.6	+27.1	+17.3
CDSs, N Am (CDX)†	93.3	+11.5	+26.6	+26.6
Carbon trading (EU ETS) €	8.2	+0.9	+11.6	+3.0

Sources: Markit; Thomson Reuters. *Total return index. †Credit-default-swap spreads, basis points. §Sept 29th.

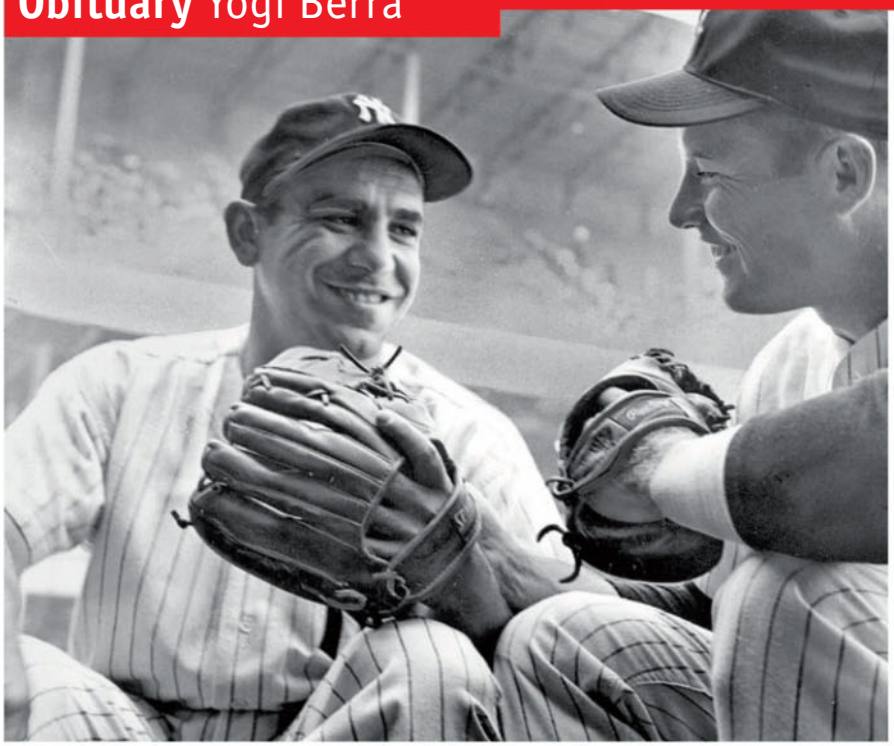
Indicators for more countries and additional series, go to: **Economist.com/indicators**

The Economist commodity-price index

2005=100

	Sep 22nd	Sep 29th*	% change on one month	% change on one year
Dollar Index				
All Items	129.2	127.0	-2.5	-16.7
Food	149.0	150.6	+0.4	-9.1
Industrials				
All	108.6	102.6	-6.7	-26.2
Nfa†	107.8	90.7	-17.6	-29.4
Metals	109.0	107.7	-1.9	-25.0
Sterling Index				
All items	153.1	152.6	-1.3	-10.8
Euro Index				
All items	144.3	140.8	-2.2	-6.2
Gold				
$ per oz	1,126.3	1,131.8	-0.7	-6.7
West Texas Intermediate				
$ per barrel	46.1	45.2	+0.4	-50.5

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



It ain't over til it's over

Lawrence Peter ("Yogi") Berra, champion baseball player and unwitting philosopher, died on Sept 22nd, aged 90

IF HE hadn't been good at baseball, Yogi Berra might still have been working in the shoe factory in St Louis. Or Ruggeri's restaurant. Or that menswear store. He might have been president, except that he couldn't be president, owing mostly to his way of breaking up the English a little bit, and hating to make a speech. He wouldn't have been doing too good, because he didn't like school, except for recess, and he didn't like to work. His father kept telling him, "Bring that pay-cheque home!", when all he wanted was to play ball.

Not basketball; he was too short for that. But all the rest—softball, soccer, hitting bottle caps with broomsticks and, way above the rest, baseball. There he turned out so talented at hitting and catching that he never had to worry much about nickels and dimes again. He just had fun playing ball all summer, from "when the first robin builds a nest…until the geese fly south." Where else could you work three hours and get that kind of money? "You got to be very careful if you don't know where you're going, because you might not get there," he said once. At 14, he definitely knew where he was going.

The stats said it all, or most of it. He appeared in 14 World Series and won ten of them; played 19 seasons in Major League Baseball from 1946-65; made the All-Star team in 15 straight seasons and was a World Series champion ten times, which added up to more times a champion than anybody else; was one of only four players to hit at least 300 career home runs while playing catcher; and as a catcher (like the wicket-keeper in cricket), threw out nearly half of opposition base-stealers, an amazing feat. In 1972 he was elected to the Baseball Hall of Fame, which really wasn't bad for an Italian-American boy from The Hill in St Louis who'd been told he would never make it into the major leagues.

What the stats didn't show was his presence on the field. As a batter he looked like hell but no one competed more, especially in the clutch, the last innings of a game. He loved to hit any ball at all, fair or foul: "If I can see it, it's a good ball." As a catcher he'd perfected the threatening crouch, squat and ugly as a rock. Behind the mask he would be chatting away to annoy the hitter ("When you going fishing this year?"), or throwing dirt on their shoes; and the second the ball left the pitcher's hand, he would be darting up zippy as a cat and flying through the air to tag every man he could before they reached base. He maybe couldn't hit and think at the same time, but as a catcher his mind would be spinning like a computer to out-plot every opposing guy on the field. As he said, "Ninety per cent of the game is half mental."

Eighteen of his seasons were with the New York Yankees in their glory days. (The other was with the Mets, across town.) At one point he was rated the Yankees' best player next to the great Joe DiMaggio. ("Was DiMaggio fast?" he was asked once, and answered, "No, he just got there in time.") Putting on the Yankee pinstripes was the best thing he ever did—or perhaps second-best, after catching a perfect game, where no runner reached base, in 1956, and jumping like a baby into the pitcher's arms. The St Louis Cardinals had wanted him first, but offered him only $250 and, though he was poor, he was better than that. The Yankees gave him $500, so in 1943 he signed for them and learned, especially, how to catch. He loved New York, and could wax poetical about the evening shadows creeping across left field in Yankee Stadium: "It gets late early out there."

Pearls of wisdom

His fame came as much from these remarks as from baseball. He really didn't say everything he said, he said; some of the quips were made up by friends and sly reporters. He didn't mean to do it, and wondered why his lovely wife Carmen would scold him when they popped up. Even crazier was the idea that he was some sort of sage, when "In baseball, you don't know nothing." The nickname "Yogi" came from the way he sat on the ground between innings in St Louis, with his legs crossed and sad-looking; he "never did no exercises", yogic or whatever, and before games just took a vitamin pill, a Dunkin' Donut and a coffee. If he'd meditated going up to the plate, he said, he would have played worse. All the same some folk claimed that his way with space ("When you come to a fork in the road, take it"), time ("What's the time? You mean right now?") and life in general ("If the world were perfect, it wouldn't be") were real pearls of wisdom.

What seemed wisest to him was to love his family and thank God for all the fun he had. He didn't want more. His big house in Monclair, New Jersey was "nothing but rooms"; he happily drove a small Corvair rather than a Cadillac, and carefully made the bed every morning. As manager of the Mets, coach of the Houston Astros and, briefly, manager of the Yankees he was a pretty good handler of teams, though some said not enough of a leader. That wasn't his style. His one bad patch in baseball—a 14-year cooling with the Yankees after he was fired as manager in 1985 by George Steinbrenner—was because he couldn't stand to be put down by a tyrant.

That wasn't what baseball was about. Baseball was just a wonderful thing to do. If he hadn't woken up to it, he would still be sleeping. And if he had to come back to life again, "I'd like to be a ballplayer." ■