

The Economist

Bolivia: a coup or not a coup?

Aircraft-carriers, mighty big targets

Italy's ancient oligarchs

A special report on migration

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The \$650bn binge

Fear and greed in the entertainment industry



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Politics this week

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Unrest flared again in **Hong Kong** after a protester died. Another was shot at close range by a police officer, allegedly while trying to grab his gun. A man was set on fire by demonstrators after remonstrating with them. One senior officer said society was on the “brink of a total breakdown”. The Chinese government said Hong Kong was “sliding into the abyss of terrorism”. See [article](#).

China's president, Xi Jinping, paid a visit to **Greece**, an important partner in the Chinese Belt and Road Initiative, which aims to improve global infrastructure. The two countries said they would work to “overcome any obstacles” facing a Chinese state-owned company’s plan to upgrade the port of Piraeus. Mr Xi promised support for Greece’s campaign to secure the return of the Elgin marbles from Britain.

India's Supreme Court awarded the site of a mosque in the city of Ayodhya that was demolished by Hindu zealots in 1992 to Hindus planning to build a temple to the god Rama. It also criticised the destruction. The government was ordered to provide land nearby for the construction of a new mosque. The decision prompted grumbles from disappointed Muslims, but not the violence many had feared. See [article](#).

Gambia lodged a complaint against **Myanmar** at the International Court of Justice on behalf of the OIC, a group of predominantly Muslim countries. They accuse Myanmar of violating the UN convention on genocide in its treatment of Rohingya Muslims.

Cambodia's prime minister, Hun Sen, said he would release 70 opposition activists arrested in recent weeks. Under pressure from international donors the government had earlier released Kem Sokha, a prominent opposition leader, from house arrest. See [article](#).

All about Evo

Evo Morales quit as **Bolivia's** president after nearly 14 years in office. The chief of the armed forces had suggested he leave following widespread protests, which broke out after Mr Morales’s victory in a dubious election on October 20th. Mr Morales accepted Mexico’s offer of political asylum. Jeanine Áñez, a political foe of Mr Morales, took office as Bolivia’s interim president. She has said she will hold fresh elections. See [article](#).

Luiz Inácio Lula da Silva, **Brazil's** president from 2003 to 2010, was freed from prison, where he was serving a sentence for corruption, after the country’s highest court decided that people convicted of crimes could not be jailed until they had used up all their appeals. Upon his release Lula attacked the right-wing government of Jair Bolsonaro.

Chile's president, Sebastián Piñera, agreed to begin the process of writing a new constitution. But protesters who are demanding reforms rejected his offer. They want an assembly of citizens, rather than congress, to draft the new document.

Dangerous days

Israel killed a senior commander of the Palestinian Islamic Jihad group in **Gaza**, setting off a wave of violence. Palestinian militants fired more than 150 rockets into Israel, which responded with air strikes. The fighting may increase the likelihood that the two main political parties in Israel will form a unity government, breaking two months of political deadlock. See [article](#).

Hassan Rouhani, **Iran's** president, claimed that a new oilfield containing 53bn barrels of crude had been discovered. If true, this would increase Iran’s proven reserves, already one of the world’s largest, by about a third. Iran has struggled to export oil since sanctions were reimposed by America last year.

The central bank of **Zimbabwe** began reissuing Zimbabwean dollars after a decade-long hiatus. The new notes are in effect the country’s third currency in the past three years. The government has tried to stay a step ahead of a shortage of cash caused by high inflation and economic mismanagement.

Minority rapport

Spain's general election, the fourth in four years, gave no party a majority. The Socialists, who had been hoping to move closer to one, actually lost three seats. They swiftly struck a deal with the far-left Podemos party to attempt to form a coalition. Even together, the two parties will need to find support among several regional parties to get over the line. See [article](#).

Venice was hit by its worst floods for half a century. Water entered St Mark’s Basilica, causing “grave damage”, according to the city’s mayor.

The **Dutch** government backtracked on previous pledges and reduced road speed limits to 100kph (62mph) during the day to help meet a court-ordered reduction in emissions. Farmers have also been asked to cut back on livestock in order to reduce nitrogen.

In the **British** election campaign, Boris Johnson's Conservative Party got a boost when Nigel Farage, leader of the Brexit Party, said he would not field candidates in the 317 seats the Tories won in 2017. The pressure was on Mr Farage to go further and withdraw from all constituencies where his party threatens to split the Leave vote. See [article](#) .

Pass the popcorn

The first **public hearings** were held in the inquiry that will determine whether Donald Trump should be impeached for asking the Ukrainian government to dig up political dirt on Joe Biden. The first witnesses in the Democratic-led process were diplomats with responsibility for Ukraine. See [article](#) .

America's Supreme Court rejected an appeal by Remington, a gunmaker, to block a lawsuit from relatives of the victims in the **Sandy Hook school massacre** of 2012, in which 20 children and six adults were killed. The lawsuit accuses Remington of illegally marketing combat weapons.

An appeal by a murderer against his life sentence on the ground that he had already "died" in hospital was rejected by a court in **Iowa**. Benjamin Schreiber argued that his heart had stopped during an emergency procedure in 2015. But the judges concluded that the convict "is either still alive...or he is actually dead, in which case this appeal is moot".

Business this week

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Disney's streaming video service went live, the latest in a lengthening line of challengers to Netflix's dominance of the market. The trove of programming on **Disney+** not only includes its archive of animated classics, but also catalogues of material from other studios that Disney owns, which include Marvel, Pixar and 20th Century Fox. Along with rivals like Amazon and Apple (but not Netflix) Disney wants to entice customers into its wider product range—in its case, theme parks and cruises. See [article](#).

Donald Trump increased the pressure on China to agree to a “phase one” **trade deal**, threatening to raise tariffs “substantially” if it does not. Whether America removes all tariffs or just those that are scheduled to come into effect in December remains a sticking-point in the negotiations. Diplomats are also searching for a neutral venue where the two countries' presidents can sign a deal in front of the world's cameras, after Chile cancelled the APEC summit in Santiago where the ceremony was supposed to take place.

GDP in both **Germany** and **Japan** grew by just 0.1% in the third quarter compared with the previous three months. Germany avoided a recession (its economy shrank by 0.2% in the second quarter), helped in part by a welcome rise in the country's exports, which have struggled during global trade tensions. **Britain** also dodged a recession, chalking up growth of 0.3% following a previous contraction. Solid performances in the construction and services sectors offset flat growth in agriculture and manufacturing. See [article](#).

Alibaba was reported to have secured approval from the Hong Kong stock exchange to sell shares in a secondary listing. The Chinese e-commerce giant listed on the New York bourse five years ago. It had been expected to float shares in Hong Kong earlier this year, before the outbreak of huge street protests; the threat of escalating unrest to the financial hub still remains. See [article](#).

The prospectus for **Saudi Aramco's** IPO provided few details for investors, such as an indicative share price or an exact date for its stockmarket debut on the Riyadh exchange. Those particulars are expected to be announced soon. The prospectus did indicate that 1bn shares in the state-owned oil company will be offered to Saudi Arabia's small investors.

The California Trucking Association launched a legal challenge against the state's new law giving wage and benefit protections to independent contractors. The rules are aimed at workers in the **gig economy**, though they will also apply to caretakers, maids, carers and many others. The truckers' group says its drivers' ability to set their own timetables will be hampered and interstate commerce undermined. Uber and others want a measure to be put before voters next year that would exempt them from the law, which comes into effect on January 1st.

National health mistrust

A deal that will see Ascension, an American hospital network, share patient data with **Google** attracted the ire of lawmakers worried about privacy. Suspicion about Google's intentions in health is a running theme: it was also criticised for a collaboration with a British hospital in 2016, and with the University of Chicago a year later. It was also reported that Google wants to move into banking, which could set up a clash with financial regulators.

In an update on the progress it is making towards regulatory approval to fly the **737 MAX** aircraft, which has been grounded for most of the year following two crashes, Boeing said it was “possible” that deliveries to airlines could resume in December and that it hopes soon to secure consent for new pilot-training requirements. Southwest and American Airlines pushed back the dates for when they expect the 737 MAX can take off again until early March.

British Steel, which has been in liquidation following a Brexit-induced slump in orders, received a takeover offer from **Jingye**, a Chinese steelmaker. There is some uncertainty about Jingye's long-term commitment. BS specialises in railway tracks and construction girders, technology that Jingye lacks back home.

Carl Icahn, an activist investor, revealed that he has built a 4.2% stake in **HP** and will push it to accept a takeover offer from **Xerox**.

Tesla chose Berlin as the site for its first factory in Europe, making electric cars and batteries. “Berlin rocks,” raved Elon Musk, Tesla's boss. Production should start in 2021.

No need to be bitter

American connoisseurs of craft brew were crying in their ale upon the news that **Anheuser-Busch InBev** has struck a deal to buy **Redhook**, a pioneer in the small-brewers revolution that began 40 years ago. The global beer conglomerate decided now was the time to swallow the roughly 70% it does not already own of Craft Brew Alliance, which also owns Kona and other brands, after its share price fell flat.

KAL's cartoon

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The media business

The \$650bn binge

Netflix, Disney and the battle to control eyeballs

Who will win the media wars?

Disney's new streaming service and the media wars

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AMERICA HAS seen some spectacular investment booms: think of the railways in the 1860s, Detroit's car industry in the 1940s or the fracking frenzy in this century. Today the latest bonanza is in full swing, but instead of steel and sand it involves scripts, sounds, screens and celebrities. This week Disney launched a streaming service which offers "Star Wars" and other hits from its vast catalogue for \$6.99 a month, less than the cost of a DVD. As the business model pioneered by Netflix is copied by dozens of rivals, over 700m subscribers are now streaming video across the planet. Roughly as much cash—over \$100bn this year—is being invested in content as it is in America's oil industry. In total the entertainment business has spent at least \$650bn on acquisitions and programming in the past five years.

This binge is the culmination of 20 years of creative destruction (see Briefing). New technologies and ideas have shaken up music, gaming and now television. Today many people associate economic change with deteriorating living standards: job losses, being ripped-off, or living under virtual monopolies in search and social networks. But this business blockbuster is a reminder that dynamic markets can benefit consumers with lower prices and better quality. Government has so far had little to do with the boom, but when it inevitably peaks the state will have a part to play, by ensuring that the market stays open and vibrant.

The entertainment business is fast-moving by its very nature. It has few tangible assets, it relies on technology to distribute its wares and its customers crave novelty. The emergence of sound in the 1920s cemented Hollywood as the centre of the global film business. But by the end of the 20th century the industry had grown as complacent as a punchline in a repeat episode of "Friends". It relied on old technologies—analogue broadcasting, slow internet connections and the storage of sounds and sights on fiddly CDs, DVDs and hard drives. And the commercial approach was to rip off consumers by overcharging for stale content packaged into oversized bundles.

The first shudder came in music in 1999, with internet services soon putting established music firms such as EMI and Warner Music under pressure. In television Netflix broke the mould in 2007 by using broadband connections to sell video subscriptions, undercutting the cable firms. When the smartphone took off it tailored its service to hand-held devices. The firm has acted as a catalyst for competition, forcing the old guard to slash prices and innovate, and sucking in new contenders. The boom has seen star writers paid as if they were Wall Street titans, sent rents for Hollywood studio lots into the stratosphere and overtook the 20th century's media barons, including Rupert Murdoch, who sold much of his empire to Disney in March.

Amid the debris and deals the outlines of a new business model are becoming clear. It relies on broadband and devices, not cable-packages, and overwhelmingly on subscriptions, not advertising. Unlike in search or social media, no firm in television and video streaming has more than a 20% market share by revenues. The contenders include Netflix, Disney, AT&T-Time Warner, Comcast and smaller upstarts. Three tech firms are active, too—YouTube (owned by Alphabet), Amazon and Apple, although their collective market share is still small. The music industry is also contested, with the biggest firm, Spotify, having a 34% market share in America.

Disruption has created an economic windfall. Consider consumers, first. They have more to choose from at lower prices and can pick from a variety of streaming services that cost less than \$15 each compared with \$80 or more for a cable bundle. Last year 496 new shows were made, double the number in 2010. Quality has also risen, judged by the crop of Oscar and Emmy nominations for streamed shows and by the rising diversity of storytelling. Workers have done reasonably. The number of entertainment, media, arts and sports jobs in America has risen by 8% since 2008 and wages are up by a fifth. Investors, meanwhile, no longer enjoy abnormally fat profits, but those who backed the right firms have done well. A dollar invested in Viacom shares a decade ago is worth 95 cents today. For Netflix the figure is \$37.

Many booms turn to bust. Unlike, say, WeWork, most entertainment firms have a plausible strategy, but too much cash is now chasing eyeballs. Netflix is burning \$3bn a year and would need to raise prices by 15% to break even—tricky when there are over 30 rival services. It hopes that its fast-growing international markets will create economies of scale. As well as saturation, the other danger is debt. Deals and high spending have caused American media firms to build up \$500bn of borrowing.

When the shake-out comes, history offers two dispiriting examples of how a consumer-friendly boom can turn into a stitch-up. Telecoms and airlines in America saw a riot of competition in the 1990s only to become financially stretched and then reconsolidated into oligopolies that are known today for poor service and high prices.

This is why government has a role in keeping the entertainment business competitive. First, it should prevent any firm—including the tech giants—from acquiring a dominant share in the content business. Second, it should require the companies that own the gateways to content, such as telecoms firms or handset providers such as Apple that can control what screens show—to have an open-access policy and not discriminate against particular content firms. Last, it should make sure subscribers can move their personal data from one firm to another, so they do not become locked in to one service.

Don't lose the plot

Few people look to Hollywood for economics lessons. But the entertainment epic has featured vibrant capital markets. Buy-out firms, stockmarkets and junk bonds have all financed the industry's reinvention. The stars have been billionaire entrepreneurs such as Reed Hastings, Netflix's boss. And open borders have set the scene, since talent comes from around the world and a majority of streaming subscribers now live outside America. Across the economy, these elements are at risk as politicians and voters veer away from open trade and free markets. For a reminder of why they matter, turn on your screen and press play. ■

The end of Evo Morales
Was there a coup in Bolivia?

The armed forces spoke up for democracy and the constitution against an attempt at dictatorship

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THERE ARE few more emotive words in Latin America than “coup”, and for good reason. From 1930 to the 1970s, the region suffered the frequent overthrow of civilian governments in often bloody military putsches. The victims were usually of the left. In 1954 a moderate reforming government in Guatemala was ousted in the name of anti-communism by the CIA. Other coups followed, including that of General Augusto Pinochet against Salvador Allende, a radical socialist, in Chile in 1973.

Since the democratisation of the region in the 1980s, coups have been rare. But the very idea has become a potent propaganda tool, especially for leftists. Scarcely a week goes by without Nicolás Maduro, Venezuela’s fraudulently elected dictator, claiming that he is threatened by one. Daniel Ortega in Nicaragua says the same. Dilma Rousseff, a leftist president in Brazil who spent her way to a second term in violation of the country’s fiscal responsibility law, also claims that her impeachment in 2016 was “a coup” even though it followed strict constitutional procedures.

The latest claim involves the fall of Evo Morales, Bolivia’s leftist president since 2006. He resigned on November 10th, fleeing into exile in Mexico. This prompted a chorus of denunciations of a coup from the Latin American left and even some European social democrats. This time, at least, the critics are wrong.

True, Mr Morales’s term was not due to end until January. His fall followed violent protests and a mutiny by the police, who failed to suppress them. The final straw came when the head of the armed forces “suggested” that he quit. But that is to tell only a fraction of the story.

Mr Morales, who is of Aymara indigenous descent, long enjoyed broad popular support. He imposed a new constitution, which limited presidents to two terms. Thanks to the commodity boom and his pragmatic economic policy, poverty fell sharply. He created a more inclusive society.

But he also commandeered the courts and the electoral authority and was often ruthless with opponents. In his determination to remain in power he made the classic strongman’s mistake of losing touch with the street. In 2016 he narrowly lost a referendum to abolish presidential term limits. He got the constitutional court to say he could run for a third term anyway. He then claimed victory in a dubious election last month. That triggered the uprising. An outside audit upheld the opposition’s claims of widespread irregularities. His offer to re-run the election came too late.

Mr Morales was thus the casualty of a counter-revolution aimed at defending democracy and the constitution against electoral fraud and his own illegal candidacy. The army withdrew its support because it was not prepared to fire on people in order to sustain him in power. How these events will come to be viewed depends in part on what happens now (see [article](#)). An opposition leader has taken over as interim president and called for a fresh election to be held in a matter of weeks. There are two big risks in this. One is that ultras in the opposition try to erase the good things Mr Morales stood for as well as the bad. The other is that his supporters seek to destabilise the interim government and boycott the election. It may take outside help to ensure a fair contest.

That the army had to play a role is indeed troubling. But the issue at stake in Bolivia was what should happen, in extremis, when an elected president deploys the power of the state against the constitution. In Mr Morales’s resignation and the army’s forcing of it, Bolivia has set an example for Venezuela and Nicaragua, though it is one that is unlikely to be heeded. In the past it was right-wing strongmen who refused to leave power when legally obliged to do so. Now it is often those on the left. Their constant invocation of coups tends to be a smokescreen for their own flouting of the rules. It should be examined with care. ■

America's multi-trillion dollar pension hole

Public pensions are woefully underfunded

The crunch point is coming soon

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MANY WORKERS in the private sector no longer have them. But most public-sector employees in America are still entitled to a valuable benefit: a pension linked to their final salary. A long-standing problem is that states and cities, which fund their plans differently from the federal government, have been lax about putting aside enough money to cover these promises.

The resulting black hole is becoming ever more alarming (see [article](#)). Although the American stockmarket has been hitting record highs, the average public-sector pension fund has a bigger deficit in percentage terms than it did in either 2000, or the start of this decade. In some states and cities schemes are less than 50% funded; Illinois has six of the worst.

The cost of pension promises has risen because people are living longer, so they end up taking more out of the pot. Some states and cities have responded by trying to wriggle out of their obligations and cut the benefits retirees get, but courts have often decided against them, ruling that a contract is a contract. As a result states, cities and other public bodies are being forced to funnel ever more into pension schemes. Having chipped in the equivalent of 5.3% of their ordinary payroll bills in 2001, public-sector employers now pay in, on average, 16.5% a year.

Even those contributions have not been enough. Politicians have often failed to pay in as much as the actuaries recommend. In 2009 the actuaries for the Illinois Teachers scheme asked the state to cough up \$2.1bn; it paid just \$1.6bn. By 2018 the annual bill had risen to \$7.1bn but the state paid only \$4.2bn. The hole in the pension scheme deepened to \$75bn in 2018, or about \$6,000 for every citizen in the state. And that is just for teachers.

The problem could yet worsen. Pension schemes are vulnerable to a market downturn and many were left reeling after the global financial crisis of 2008-09. Even if markets do not tumble, they would suffer in a long period of sluggish returns. That looks plausible given that 30-year Treasury bond yields are just 2.4% and American equity valuations are stretched relative to their historical average. Some schemes are betting on "alternative assets" like hedge funds and private equity to fill the gap. But hedge-fund returns have been disappointing over the past decade, and the private-equity industry is not large enough to absorb \$4trn of public-sector pension assets.

And there is a final problem: the schemes' accounting. When working out how much they need to put aside today, all funded schemes must calculate how much they are likely to pay out in future. This means using a rate to discount the cost of tomorrow's pension payments. The higher the rate used, the lower the cost seems to be. Public-sector pension schemes are allowed to use the assumed rate of investment return as their discount rate, even though they will still have to pay pensions whether they earn that return or not. This has naturally led to a degree of optimism about future returns: many assume 7-7.5% a year.

In the private sector, a pension promise is seen as a debt and has to be discounted at corporate-bond yields, which are at historically low levels. This makes pensions look more expensive and explains why many companies have closed their final-salary schemes. If the public sector had to use the same approach, its average funding ratio would be a lot lower than today's 72% and the resulting hole, currently \$1.6trn in total would be a lot bigger.

Public bodies are going to have to boost their contributions even further. A study by the Centre for Retirement Research found that in the worst-affected states—Connecticut, Illinois and New Jersey—pension costs in 2014 were already 15% of total revenues. That will trigger a squeeze on the public finances, as other spending has to be cut or taxes have to be cranked up. Either will be especially hard on younger people and workers in the private sector, who do not get the same benefits.

The pensions crisis has been rumbling on for years, but some states and cities will soon enter a downward spiral, in which pension costs lead to bad public services or tax rises, in turn encouraging workers and firms to move out, which then shrinks the tax base, making promises even less affordable. When that happens some states and cities will tumble into a black hole. ■

Correction (November 15th): A previous version of this article stated that the hole in public-sector pensions is \$1.6bn. It is in fact \$1.6trn. Sorry.

Unlock that door

Voters could make the world twice as rich. Why don't they?

How to make immigration more palatable in rich democracies

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IMAGINE YOU are offered a job at triple your salary. But first you must pass through a locked door, and someone with the key won't open it. You might be willing to pay them to let you through. Whether this is fair or not is beside the point. They have the key and you don't. If you gave them a portion of the increase in your wages, you would both be better off.

This is not a bad analogy for global immigration policy. When migrants move from a poor country to a rich one, they typically make three to six times as much money as before (see our [Special report](#) in this issue). If everyone who wanted to migrate were allowed to do so, the world would by one estimate be twice as rich. Yet this vast gain cannot be realised, because most would-be migrants are forced to stay where they are. The door is locked, and voters in rich countries hold the key.

Is there a way to open that door? Hardly anyone is considering it. Instead, the debate in rich countries veers between fear-mongering and moralising. Nationalists, from Donald Trump, America's president, to Viktor Orban, Hungary's prime minister, portray immigrants as a threat to the culture, wages and even lives of the native-born. Pro-migration liberals, by contrast, are quick to dismiss those who disagree with them as racists, and mouth slogans that seem almost designed to alienate voters. Several Democrats in America talk not of reforming but of abolishing ICE, the agency enforcing immigration laws.

A more pragmatic approach would be to think in terms of costs, benefits and how they might be distributed. The biggest beneficiaries of migration are the migrants themselves, who earn far more and in many cases escape from oppression or sexism. Their birthplaces benefit from the money they send home and the knowledge they bring back when they return, which usually more than makes up for any "brain drain".

The benefits to host countries are hefty, too. Skilled immigrants check pulses, write code and help local firms do business with their homelands. Migrants are twice as likely as the native-born to start a business and three times as likely to patent an idea. Blue-collar immigrants provide cheaper plumbing, child care and parcel deliveries. By one estimate, 83% of native-born rich-country workers benefit from immigration. Migrants may drag down the wages of native workers with similar skills, but the effect is so small that economists are not sure it exists.

The biggest cost of migration is the hardest to measure. It is cultural. Many people like their societies the way they are. Some bristle when they hear foreign languages on the bus, or when a mosque replaces a pub. Since migrants tend to cluster, some places change uncomfortably fast. Such feelings are inflamed by demagogues, who wildly exaggerate the threat from a tiny minority of migrants—especially from crime.

Overcoming these objections will be hard. But not impossible, if policymakers observe four principles. First, border control matters. Voters, perfectly reasonably, cannot abide chaos; governments must set and enforce the rules for who comes. Second, migrants must pay their way. Most already do, but it is crucial to design policies that encourage this, by making it easy for them to work and hard, at least for a while, to claim welfare benefits.

Third, be creative. Australia's "points-based" system is often praised, not least by some Brexiteers. It favours migrants who are young, English-speaking and have useful skills. It is quick, transparent and welcoming. At the same time Australia pitilessly excludes anyone who tries to enter without permission. Australians mostly support this system because they feel in charge of it.

More market-based systems are also worth trying. Countries could auction visas to the well-heeled. In addition, for those who cannot yet afford to bid, they could allow more migrants in but apply surtaxes to their wages for a period, and transfer the money to citizens. If this is the price of entry, many migrants will choose to pay it. And if voters see an immigration dividend, they may find that new mosque does not bother them as much.

Fourth, pace matters more than absolute levels. Political resistance to migrants spikes with sudden surges in immigration. In 2015 net immigration to Germany more than doubled to almost 1.2m, leading to a backlash. Yet the share of the population that is foreign-born is 16%, compared with 29% in Australia. This shows that a country with sensible policies can be almost two times as open to migration as Germany without even a hint of the disaster that nativists predict. On the contrary, Australia has a lower homicide rate than Germany, its people live longer and it has not had a recession since 1991. Many Australians grumble about congestion in the cities most popular with migrants, but this is fixable with the taxes those migrants pay.

If the flow is steady and orderly, and if the newcomers are encouraged to support themselves and adapt to the host culture, immigration can be higher than most rich countries allow today. Singapore is 45% foreign-born, and a byword for prosperous tranquility. Countries can open up incrementally, with conditions, and reverse course if they choose.

Today's anti-migrant mood makes all this seem unlikely. Far from opening the door, many Western governments are double-locking it. Yet this creates an opportunity for others to snaffle the best brains repelled by chauvinism, to lure the most enterprising migrants, and once again to become lands of opportunity. ■

Sink or swim

Aircraft-carriers are under threat from modern missiles

*If carriers and the planes that fly off them do not adapt, American allies in Asia will be in trouble***Print | Leaders** Nov 14th 2019

“NO PIECE OF hardware better exemplifies America’s military might than an aircraft-carrier,” declare the memoirs of Ashton Carter, America’s defence secretary in 2015-17. Nor does any other piece of hardware so plainly exemplify what is wrong with America’s military thinking. Aircraft-carriers are the largest and most expensive machines in the history of warfare. A new American Ford-class ship costs \$13bn—more than the annual defence budget of Poland or Pakistan. However, as precision missiles become faster, more accurate and more numerous, these beasts look increasingly like giant floating targets.

Although America has by far the world’s largest fleet of carriers—11 of the full-sized sort, plus half a dozen smaller ones—their appeal is global, and growing. China’s first domestically built carrier will be commissioned within months. Britain’s second modern carrier began its sea trials in September. Even pacifist Japan is converting two destroyers to carry jets, for the first time since the second world war.

Aircraft-carriers have proved their worth in recent years. Many armed forces watched admiringly as American naval jets did the lion’s share of bombing in the early months of war in Afghanistan in 2001 and Iraq in 2003 (and again in 2014). Land bases were often unavailable because of awkward geography or recalcitrant allies.

But the seas off enemy shores look ever less safe. Russia and China are both developing long-range missiles that are manoeuvrable and accurate enough to hit large ships at sea. China’s DF-21D, an anti-ship ballistic missile that can travel over 1,500km (950 miles), is already a threat. Several countries are building cheaper anti-ship cruise missiles, which fly shorter distances but can be launched from planes. Anti-ship missiles are growing in range, precision and number. By one estimate, an American naval force within 2,000km of China might have to parry 640 incoming weapons in a single salvo.

Though guiding such missiles onto a distant moving target is tricky, no navy will be keen on putting several billion dollars and thousands of sailors in peril. Carriers have become too big to fail. As a result, they will probably have to remain at least 1,000km away from shore, a distance that their warplanes cannot cross without refuelling. That could have grave implications for America’s ability to project power across the Pacific—and so for all its allies (see [Briefing](#)). Carriers will also have to be cocooned with destroyers and frigates, which will absorb most of the resources of smaller navies, like those of Britain and France.

Carriers are not entirely obsolete. Most wars will not be great-power clashes. They will remain useful against foes which lack modern missile systems. Even in intense conflicts, warships will require air power to protect them from the predations of enemy ships and aircraft. As long as navies have surface ships, they will want to be able to fly planes above them.

But what sort of planes? Even as missiles force carriers farther offshore, the average combat range of their air wings has shrunk, from 2,240km in 1956 to around 1,000km today. (Modern munitions travel farther, but do not make up the difference.) The obvious remedy is to use drones that can fly longer, riskier missions than human pilots, allowing their host carriers to keep a safe distance away. But the Pentagon unwisely scrapped its programme for such a drone in 2016, replacing it with one that would merely refuel inhabited planes.

Aircraft-carriers, like the warplanes on them, belong to a class of large, vastly expensive weapons that military types call “exquisite”. A more homely approach to military technology is warranted. Smaller, cheaper and, where possible, unmanned systems could be procured in larger numbers, dispersed more widely and used more daringly. Such forces may lack the prestige of massive warships. But they are better adapted to a world in which the projection of military power is growing ever harder.

On Elizabeth Warren, the Berlin Wall, southern Democrats, army food, William Rehnquist

Letters to the editor

Letters to the editor

On Elizabeth Warren, the Berlin Wall, southern Democrats, army food, William Rehnquist

A selection of correspondence

Print | Letters Nov 16th 2019

Warren's classical economics

The Economist is concerned about Elizabeth Warren's "dubious...vilification of business" ("A plan for American capitalism", October 26th). Yet the principles that lie behind the Democratic presidential candidate's proposals are similar to those found in parts of Adam Smith's "The Wealth of Nations". He too argued that wide gaps between the classes are dangerous and thought that the most scrupulous and suspicious attention should be paid to any policy plans coming from businessmen.

In recent decades gains from productivity increases have been monopolised by the wealthy, a contrast to Smith's belief that productivity gains from the division of labour lift the lowest ranks of people. Ms Warren advocates a return to the Glass-Steagall Act; Smith also called for the careful regulation of banking.

It is right to be concerned about excessive government, but Smith himself said there is a role for government when businesspeople neglect ethics. Today's market system needs a significant course correction towards the direction of equal justice. Such a correction would be entirely consistent with Smith's simple secret for prosperity: justice, liberty and equality.

JOHN HILL

Emeritus professor of politics and history

Curry College

Milton, Massachusetts

You concluded that Ms Warren underestimates "the dynamic power of markets to help middle-class Americans". But for years now the American middle classes have witnessed their own destruction by unleashed market forces.

The "power of markets" allowed my family's health-insurance company to deny payments for crucial tests and hospital care during the treatment of a life-threatening disease (the doctors who helped us through endless appeals often do this for long lists of very sick patients). The university where I teach has opened food banks in recent years. And during the wave of foreclosures it was not the invisible hand of the market but our local congresswoman who reached out to help families keep their homes.

SHARONA MUIR

Perrysburg, Ohio

As a Republican who lived in California for 40 years, and who was a close neighbour of Ronald Reagan, my politics have changed since living in Norway. Capitalism is based on selfishness. The welfare states are based on unselfish love. If equality of opportunity is an essential element of an efficient, happy and healthy society, Elizabeth and Bernie are on the right track.

BOB O'CONNOR

Eiksmarka, Norway

Ms Warren has properly diagnosed America's problems, but she is offering the wrong prescriptions. Not only do they have no chance of passing legislative muster, they won't even gain the support of many Democrats. Her plans are heavy-handed and expensive, and do not recognise what many studies of human behaviour have verified over the years: incentives work better than regulation.

JOHN THOMAS

Fort Collins, Colorado

When East met West

Helmut Kohl's decision to swap East German Ostmarks at the same exchange rate as Deutschmarks was one cause of the discontentment surrounding German unification ("Thirty years after the Wall fell", [November 2nd](#)). More important was the West German unions imposing their own collective wage bargaining on less productive East German workers, thus preventing their western production line moving east. This resulted in the deindustrialisation of the former East Germany. Compounding this was the transfer of the generous West German welfare system to the lower cost-of-living East, making unemployment a long-term occupation for many. My own analysis of Germany's *Mezzogiorno* (fiscal transfers from west-to-east and labour migration from east-to-west) showed how ten years after the collapse of communism the German state often paid more in

welfare than the average salary in the East German labour market. Now, 30 years on, many of those who were unemployed will be claiming state pensions.

WILL PAGE

London

Southern ticket-splitters

“Democrats in Dixie” ([November 2nd](#)) suggested that John Bel Edwards, the Democratic governor of Louisiana, is the only person from his party to hold that office “in the South”. No doubt you meant the Deep South. North Carolina and Virginia also have Democratic governors. To your point about pragmatic local politics, in the election of 2016 voters in North Carolina replaced the incumbent Republican governor (who supported the divisive bathroom bill) with a Democrat, and at the same time voted for Donald Trump.

RICHARD BETHUNE

Raleigh, North Carolina

Scandalous scoff

I am not surprised that the food is so unpopular at Larkhill Garrison (“Marching on its stomach”, [October 26th](#)). I was the last director of defence catering before the position vanished. British soldiers used to have a small amount of money, known as the daily messing rate, deducted from their pay each month. This covered as much food and beverages as they wanted, and really needed—infantrymen burn calories at a terrific rate and eat a huge amount of food. The meals were nutritionally balanced. But this old system was decreed unfair by a bunch of MPs and civil servants because some troops ate less than others, and some may have even missed meals.

So the Ministry of Defence brought in a system called Pay as You Dine, or pay as you die as some soldiers call it. They now pay cash at each meal for what they actually consume. Big eaters, like the infantry, clearly pay more. It is a bad deal; many soldiers run out of money halfway through the month. I objected to the new system, but the civil servants won the day. Far too much military logistics is now contracted out. One day lives will be lost on operations as a result. Remember the Crimea?

BRIGADIER (RET'D) JEFF LITTLE

Osmington, Dorset

In 2018 I had the misfortune to stay overnight at an army base. The catering in the officers' mess was so bad that I wrote to the chief of the general staff, to say that if this was the standard for officers, what was it like for soldiers? He replied that he was extremely satisfied with present standards and that the managing-director of a London hotel was available for advice when required.

RICHARD COLLINS

Hinton St Mary, Dorset

With humbled breast

“I did nothing in particular, and I did it very well,” William Rehnquist said about his oversight of Bill Clinton's impeachment trial (“Trying times”, [October 26th](#)). The then chief justice of the Supreme Court quoted those lines from “Iolanthe”, his favourite opera by Gilbert and Sullivan. In fact, the costume worn by the lord-chancellor character in one particular production of “Iolanthe” inspired Rehnquist to add gold stripes to the sleeves of his justice's robe, so that he would stand out.

DAVID WHITE

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Aircraft-carriers

Too big to fail?

Military kit

Aircraft-carriers are big, expensive, vulnerable—and popular

The queens of the fleet are too big to fail

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IN 2016 THE *Admiral Kuznetsov*, Russia's sole aircraft-carrier, spluttered north through the English Channel belching thick black smoke. She was returning from an ignominious tour of duty in the Mediterranean. One of the 15 warplanes with which she had been pounding Syria had crashed into the sea; another had lurched off the deck after landing. When she finally docked near Murmansk a 70-tonne crane smashed into her deck.

The hapless *Kuznetsov* “is largely a white elephant with no real mission,” in the words of Michael Kofman, an expert on Russia's armed forces. So why bother paying for the refit she has been undergoing ever since? “For the appearance”, says Mr Kofman, “of being a major naval power.”

Floating runways have signified naval seriousness for most of the past century. Originally seen as a way to provide air cover for other ships, the second world war saw aircraft-carriers and their air wings become the main way that fleets fought with each other. That role was largely lost after 1945, as the Soviet Union was not a naval power; the heart of the cold war lay on central Europe's plains and in third-world hinterlands. But despite the lack of a high-seas competitor America made its carriers mightier still, using them to establish air superiority wherever it chose.

Carrier planes flew 41% of America's combat sorties in the Korean war and more than half of its raids on North Vietnam. In the first three months of the Afghan war in 2001, carrier-based jets mounted three-quarters of all strike missions. Two years later, when Turkey and Saudi Arabia refused to allow their territory to be used for attacks on Iraq, America deployed the combined might of five aircraft-carriers to mount 8,000 sorties in the first month of its invasion. When Islamic State blitzed through Iraq in 2014 the *USS George H.W. Bush* rushed from the Arabian Sea to the Gulf. For more than a month the only air strikes against IS were launched from its four catapults.

The 11 supercarriers that America's navy is required by law to have on its books make it a power like no other, able to fly fighters, bombers and reconnaissance aircraft wherever it likes without the need for nearby allies to provide airbases. The other countries with carriers capable of launching jet aircraft—Britain, China, France, India, Italy, Russia and Spain—make do with smaller and less potent vessels. But their numbers are increasing. Britain, India and China are all getting new carriers ready. Britain is settling for two; India aspires for three; China plans to have six or so by 2035. Japan is joining the club. In December 2018 it announced that it would convert its two Izumo-class destroyers to carry jets.

Is this fashion for flat-tops well advised? Carriers have long been threatened by submarines. During the Falklands war Argentina's navy kept its only carrier skulking in port for fear of British submarines. Now they are increasingly threatened above the waterline, too, by ever more sophisticated land- and air-launched anti-ship missiles. To remain safe, carriers must stay ever-farther out to sea, their usefulness dropping with every nautical mile. Missile improvements also threaten the ability of the carriers' air wings to do what is required of them, nibbling away at their very reason for being.

“The queen of the American fleet...is in danger of becoming like the battleships it was originally designed to support: big, expensive, vulnerable—and surprisingly irrelevant to the conflicts of the time,” writes Jerry Hendrix, a retired American navy captain. Are the countries devoting vast sums to their carrier fleets making a colossal mistake? And if so, what does that mean for the way America projects its power and protects its allies?

Americans like their aircraft-carriers large, like their cars and restaurant servings. They also insist on them being good. This makes them very expensive. When it was commissioned in 2017, the 100,000-tonne *USS Gerald R. Ford*, the first in a new class of carriers, became the priciest warship in history at \$13bn. That is about what Iran spends on its entire armed forces each year, and almost twice what the *George H.W. Bush*, the last of the earlier Nimitz class of carriers, had cost a decade earlier.

The ego's writing cheques

And that is before you sail or fly anything. In 1985, while he was making “Top Gun”, a jingoistic and intriguingly homoerotic paean to naval aviation, Tony Scott, a film director, was told that a single manoeuvre he wanted the *USS Enterprise* to make in order to get the perfect lighting would cost his studio \$25,000. The annual cost of operating and maintaining a Nimitz-class carrier is \$726m, not least because each has 6,000 people on board, almost twice as many as serve in the Danish navy. The planes cost a further \$3bn-\$5bn to procure and \$1.8bn a year to operate.

Thrifter countries do have other options. The 65,000-tonne *HMS Queen Elizabeth* (“Big Liz’, as we affectionately call her,” according to Britain’s defence minister in June), currently exercising with its F-35 jets in the North Atlantic, cost Britain under £5bn (\$6.2bn) to build. The next in its class, *HMS Prince of Wales*, not yet commissioned, is said to be coming in a fifth cheaper. There is also a second-hand market for those willing to accept a few scuffs on the paintwork. China’s debut carrier, the *Liaoning*, began life as the half-built hulk of the *Kuznetsov*’s sister ship. It was sold by Ukraine to a Hong Kong-based tycoon for a paltry \$20m. He shelled out a further \$100m to move it to China.

Yet even modestly sized carriers will inevitably soak up a good proportion of stretched military budgets. The capital cost of the *Ford* amounts to less than 2% of America’s annual defence budget; the *Queen Elizabeth* represents about 15% of Britain’s. General Sir David Richards, who served as Britain’s chief of defence staff from 2010 to 2013, urged the government to cancel the *Prince of Wales* because “We could have had five new frigates for the same money.” Sir David’s successor, General Nick Houghton, complained in May that Britain would “rue the day” it had splashed out on both. “We cannot afford these things. We will be able to afford them only with detriment to the balance of the surface fleet.”

It is one thing to be expensive. It is another to be expensive and fragile. In 2006 a Chinese Song-class diesel-electric submarine stalked the *USS Kitty Hawk*, a carrier, so silently while she was off Okinawa in the East China Sea that the first the Americans knew of it was when it surfaced just about 8,000 metres away. Getting that close would be harder in wartime, when the ships, subs and aircraft around a carrier would be more alert to undersea lurkers. But China is fielding ever more submarines. Modelling by the RAND Corporation has found that Chinese “attack opportunities”—the number of times Chinese subs could reach positions to attack an American carrier over a seven-day period—rose tenfold between 1996 and 2010.

Submarines do not have to get that close to do harm; they, like surface ships and aircraft, can also launch increasingly sophisticated anti-ship missiles from far afield. China’s H-6K bomber, for instance, has a range of 3,000km and its YJ-12 cruise missiles another 400km. This July, General David Berger, the head of America’s Marine Corps, published new guidelines which acknowledged that long-range precision weapons mean that “traditional large-signature naval platforms”—big ships that show up on radar—are increasingly at risk.

The most frightening illustration of this threat is a 200-metre platform—roughly the length of a carrier deck—that sits in the Gobi desert. It is thought to be a test target for China’s DF-21D ballistic missile, a weapon that the Pentagon says is specifically designed to kill carriers. The DF-21D is a pretty sophisticated and pricey bit of kit. But Mr Hendrix calculates that China could build over 1,200 DF-21Ds for the cost of just one American carrier. A longer-range version, the DF-26, entered service in April 2018.

According to a study by CSBA, a Washington think-tank, in future wars American carriers would have to remain over 1,000 nautical miles (1,850km) away from the coastlines of a “capable adversary” like China to stay reasonably safe. Any closer, and they could face up to 2,000 weapons in a single day.

Carriers are not without defences. Their own aircraft can protect them from incoming bombers. The escort vessels around and below them ward off unfriendly submarines and shoot down incoming missiles. Aboard the *USS Carney*, a guided-missile destroyer of the sort that escorts carriers, Jamie Jordan, her combat-systems officer, insists that the navy is prepared: “It is instilled in us to train to those worst-case scenarios of saturation attacks.” Among the missiles in its launch tubes are some designed to shoot down incomers. But if faced with missiles launched in salvos 600 strong, as CSBA suggests, could even the best missile-defence systems keep up?

Mach 2 with your hair on fire

What makes things worse is that aircraft range has shrunk just as missile ranges have grown (see chart). The air wings of the Top Gun era had an average range of about 1,700km. The Rafales on board France’s *Charles de Gaulle* today can still manage something similar. But the F-35s aboard American, British and Italian carriers, designed more for stealth than stamina, can reach nowhere near as far. Even when you add on the 500km range of the JASSM missiles the F-35 is armed with, American carriers attacking China would be well within being-struck range before they got their planes into strike range (see map). In-air refuelling can help, but it cuts the number of sorties a lot. And a repeatedly refuelled F-35 hitting a target almost 4,000km from its carrier could be aloft for 12 hours—the very edge of what its lone human pilot could manage.

This does not mean the age of the carrier is over. “A lot of these [carrier-killing] systems are essentially unproven,” says Nick Childs, an expert at the International Institute of Strategic Studies, a London think-tank. A missile that can fly the distance required is only one part of such a system. You also need eyes that can keep track of the prey. Ground-based radar cannot see targets hundreds of kilometres out to sea. Satellites can help, but they don’t give you data of high enough quality for the necessary precision, says Sidharth Kaushal, an expert at RUSI, another London think-tank. “They can tell you roughly where a carrier is, and possibly its bearing”. Bringing together different sorts of satellite and drone data to update targeting information on the fly will not be easy, not least because the target carrier’s bearing is unlikely to stay steady. Satellites can spot missile launches, too—and the *Ford* could travel more than four nautical miles in a new direction during the eight minutes it would take a DF-21D to reach it.

America’s mighty carriers, surrounded by their protective battle groups and watched over by satellites, are more likely to survive a serious assault than the smaller carriers of other nations. This is in part because those smaller nations cannot afford fleets large enough to protect their carriers; trying to do so is already distorting their order of battle. A typical carrier strike group might tie up four or five frigates and destroyers; the Royal Navy only has 19 such ships, the French even fewer.

Mark Sedwill, Britain’s national-security adviser, says that a shortage of escorts is supportable because in combat the Royal Navy’s new carriers would “inevitably be used in the context of allied operations of some kind” if the threat were high. But, as the defence committee of Britain’s parliament has pointed out, it is not ideal to have flagships the country cannot use on its

own: “Operating aircraft-carriers without the sovereign ability to protect them is complacent at best and potentially dangerous at worst.”

If America is better able to defend its carriers, they are still becoming more vulnerable, and that matters more to America than to any other country. More or less since the Battle of Midway, it has relied on carrier-led naval forces to project power in Asia. In August a detailed report by the University of Sydney concluded that Chinese “counter-intervention systems” had contributed to a dramatic shift in the balance of power: “America’s defence strategy in the Indo-Pacific is in the throes of an unprecedented crisis”. If, in response to Chinese action against Taiwan, outlying Japanese islands or disputed territories in the South China Sea, American carriers looked on from half an ocean away, America’s reputation would crumble. If it steamed in, though, it could conceivably see one sunk.

One response to the problem of carriers being too large and vulnerable is making them smaller and nimbler. The guidance provided by General Berger of the marines explicitly calls for dispersal. But making the most of that possibility means changing what flies off the top. Stealthy unmanned planes could fly longer and riskier missions than human pilots, and survive higher accelerations. That would allow planes to get up close while their mothership kept well back.

Losing that loving feeling

Alas, a culture that venerates aviators is resistant to change. Next year’s “Top Gun” sequel will not star a carrier-launched X-47B combat drone. It will star Tom Cruise, just as the original did. This is not just because the drone lacks a vulpine grin; the promising X-47B programme was cancelled in 2016. The Navy’s new drone is the MQ-25 Stingray, which will be restricted to demurely refuelling jets with pilots. “This is as short-sighted a move as I have seen Washington make on defence strategy decisions,” says Eric Sayers, a former consultant for America’s Indo-Pacific Command.

It is also possible to respond to the vulnerability of carriers by doing more of what carriers used to do with missiles launched from lesser ships. The Tomahawk cruise missiles in the *Carney*’s vertical tubes can hit targets over 1,600km away. But unlike carriers, such vessels do not come with an air wing to ward off enemy planes. Even if the carrier is no longer doing the lion’s share of power projection, it might still have to protect the ships that take up that mantle. Perhaps in time it might do so with lasers; the nuclear reactors that power American carriers’ catapults and screws could also provide the megawatts that high-power lasers need. But as yet such weapons are aspirational.

The result of all this is that carriers will only be fully effective against military minnows. “Most of the time, nations aren’t in a high-end fight with a peer competitor,” says Mr Kaushal, “but are competing for influence in third states, perhaps a civil war like Syria.” China appreciates that its own carriers would not survive for long in a scrap with America—but they might come in handy for cowing an Asian neighbour into submission or bombarding irksome rebels on some African coast.

China also knows all too well that carriers offer an eye-catching way to show resolve. In 1996, when it rained missiles into the Taiwan Strait as a show of force, America sent two carrier groups into the region and one through the strait. That helped end the crisis—and spurred on China’s naval build-up. In recent times France and Britain have wielded their own carriers to demonstrate continued relevance in Asia. In a speech in Australia in 2017, Boris Johnson, then Britain’s foreign minister, declared that “one of the first things we will do with the two new colossal aircraft-carriers that we have just built is send them on a freedom of navigation operation to this area.”

That suggestion was quickly rowed back by officials; sending a large carrier to contest Chinese claims on the South China Sea would be dim when a smaller ship would do as well. But Mr Johnson’s boast showed the carrier’s continuing role as an embodiment of national prestige on top of its duties as an instrument of war. General Houghton, the former British defence chief, concedes that the *Queen Elizabeth* and *Prince of Wales* may be “too totemic to Britain’s sense of place in the world” to be given up. Though Japanese officials say they need carriers to defend their outlying islands, Alessio Patalano, an expert on Japan’s naval forces, says that “alliance integration”—being able to swap planes with American carriers—and “greater status” may matter more. When France dispatched the *Charles de Gaulle* to bomb IS in Syria in 2015, President François Hollande proclaimed it “an instrument of force and power, the symbol of our independence”.

Last June, at an annual gathering of military bigwigs in Singapore, France’s defence minister joshed her British counterpart by pointing out that the previous year both had vied to send more frigates to the Shangri-La Dialogue than the other. “So today,” she boasted, “I upped my game and came with a full carrier strike group.” As befits the French navy’s flagship, the *Charles de Gaulle* houses not just IS-bombing Rafales but also four bars and a boulangerie capable of producing over 1,000 baguettes a day. At a cocktail party on the carrier a beautifully baked bread model of the ship was on display; a symbol of national identity, inside a symbol of national power. ■

Power to the people
The future of entertainment

Media giants are battling for viewers' attention. There will be blood

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IN HOLLYWOOD LINGO, Disney+ launched hot. On blitz day, as Disney called the eve of its television-streaming service's debut on November 12th, a massive marketing campaign reached a climax. Buses in its theme parks were wrapped in ads, employees in Disney shops wore QR codes for people to sign up with smartphones and ABC's "Dancing with the Stars" trailed the excitement to come. By the end of the first day, 10m people had signed up—beyond Disney's highest expectations, it said. Its servers struggled to cope. The company rushed to fix the glitches, as viewers devoured "The Mandalorian", a specially made live-action "Star Wars" spin-off.

For \$6.99 a month—slightly less than the cost of a cinema ticket—viewers in America, Canada and the Netherlands can now tap the world's most valuable entertainment catalogue. As well as new original content, they can watch anything from "Snow White" to "Avengers: Endgame" and, thanks to Disney's \$71bn acquisition this year of 21st Century Fox, all 662 episodes of "The Simpsons" (America's favourite cartoon family was also enlisted in the ad blitz). Behind the scenes, a new recommendation algorithm hoovered up enough user data in a few hours to start sending millions of personalised viewing suggestions, says Kevin Mayer, who runs Disney's international and direct-to-consumer businesses, including Disney+.

Going into on-demand streaming is an epochal shift for the 96-year-old company. Like its Hollywood rivals, it has built an empire on controlling access to films and TV shows, which were released in dribs and drabs—on cinema screens, broadcast networks and cable channels. That model, the entertainment industry has concluded, is no longer viable in the internet age. In October AT&T, which owns WarnerMedia, the former Time Warner, unveiled HBO Max. The new service will give viewers full online access to HBO programming, as well as to other valuable content including the libraries of Warner Bros, New Line Cinema and Japan's Studio Ghibli, plus new original shows. NBCUniversal will parry with Peacock, a mainly ad-supported streaming platform also expected next year. Smaller services such as CBS All Access and Showtime have already piled in. On November 1st Apple, a tech giant with entertainment aspirations, launched Apple TV+, its own streaming service with several star-studded original shows.

"We are surprised it took them all so long," quips Ted Sarandos, chief content officer of Netflix, which began the streaming revolution in 2007. But now they are here. It is, in the words of Brian Roberts, chief executive of Comcast, a cable behemoth which owns NBCUniversal, "an important moment, as many parties across broad industries have entered the competition for content creation".

That competition should benefit consumers, who can expect a surfeit of high-quality fare. For media companies and their shareholders, it will be brutal. Billions of dollars will get torched. Some endings will be happier than others.

The big bang theory

The entertainment business's original script was simple. People paid for cinema tickets (and later video rentals) to watch films, and advertisers paid networks for access to viewers of their TV shows. That began to change in the 1990s. Hit series like "The Sopranos" and "Sex and the City" on HBO, a cable channel then owned by Time Warner, proved that people would pay extra for compelling television. But HBO still relied on "sequential" releases of weekly episodes. It was also a wholesale proposition, sold in a bundle of pay-TV channels. "The big bang", says Barry Diller, chairman of IAC, who in 1986 founded Fox Broadcasting as a rival to the three incumbent free-to-air networks, ABC, CBS and NBC, came in the mid-2000s with Netflix and, soon after, Amazon Prime Video, the e-commerce giant's streaming service.

The industry's initial response to the challengers was to pawn its crown jewels. Netflix paid hundreds of millions of dollars for rights to stream beloved sitcoms like "Friends" or "The Office". HBO struck deals with Amazon to supply it with programming such as "Six Feet Under". This allowed the streaming upstarts to rack up subscribers and splurge on more content. In time, they began producing their own programmes, notably in 2013 with "House of Cards". Netflix released the entire first season of its political drama at once, ushering in the age of "binge-watching".

Meanwhile, the rest of the business was being reshaped in other ways. Many media groups were folded into vertically integrated conglomerates that controlled both the production and distribution of content. In 2013 Comcast completed its purchase of NBCUniversal. In 2015 AT&T, a telecoms company, bought DirecTV, a satellite firm, and in 2018 paid \$85bn for Time Warner, owner of HBO and the Warner Bros studio. Disney eschewed vertical integration but expanded horizontally. Its megadeal with 21st Century Fox was the fourth for its boss, Bob Iger, who had earlier snapped up Pixar (an animation studio), Lucasfilm (maker of "Star Wars"), and Marvel Entertainment, home of Marvel Comics.

This flurry of consolidation created a handful of giant content owners, with massive back catalogues and a willingness to spend heavily on old shows and new programming (see chart 1). In October HBO Max reportedly agreed to pay over \$500m for the American rights to air 23 old series and three new ones of "South Park", a satirical cartoon owned by Viacom. It was one of the biggest on-demand-licensing deals of all time. The same rights went for \$192m four years ago. As one media executive

puts it, with more than a hint of admiration, “AT&T is not screwing around.” Since 2010 just three groups—WarnerMedia, Disney and Netflix—have ploughed a total of \$250bn into programming (see chart 2).

As content-related costs have surged, the lucrative old business model has receded. Netflix has made viewers less willing to pay over the odds for a big bundle of pay-TV channels, which generated margins of around 50% and accounted for as much as three-quarters of profits at media conglomerates like Time Warner, Disney, Viacom or News Corporation. Streaming as a stand-alone business either loses money or at best, breaks even. Netflix books accounting profits but has yet to turn free cashflow positive (though it expects to soon). It has accumulated \$12bn of long-term debt despite making no acquisitions. Media firms moving into streaming have “swapped a quarter for a nickel and paid \$5 for the privilege,” sums up one executive.

There are three ways to make streaming pay. Firms can accumulate deep ranks of loyal subscribers at home and abroad. They can raise prices. Or they can spend less on programming.

Winning over millions of subscribers is getting harder. Once consumers have paid for broadband and for a simple bundle of news and sports, it takes only three or four streaming services at current prices before the bill adds up to not much less than what they coughed up for old pay-TV. Companies are jumping into streaming in a peak-attention economy, notes Tim Mulligan of MIDiA Research. Consumers have no more spare leisure time for new TV apps. Reed Hastings, boss of Netflix, has named “Fortnite”, a hit video game, and sleep as his main competition.

In practice, his and others’ streaming services will probably have to claw viewers away from each other. Even then, customers may not stay. Switching costs are low. People might sign up for Disney+ to see “The Mandalorian”, leave and then come back a year later for a new Marvel film.

If building an enormous subscriber base looks hard, what about raising prices? Netflix did so in the spring, when its standard plan went up by \$2. There is chatter that Disney may need to raise its price for Disney+ sooner rather than later. But that risks driving subscribers into rivals’ arms.

Again, Netflix serves as a cautionary tale. In the third quarter it added just 500,000 American subscribers, 300,000 fewer than expected. Earlier this year it saw their number decline for the first time in 12 years. And that was before Disney, Apple and others entered the fray. Globally, Netflix now expects to add 26.7m subscribers this year, down from 28.6m in 2018; 90% of its subscriber growth comes from abroad, where it is potentially more expensive to win viewers because of the need to tailor content for each market.

That leaves spending on programming as the last lever on profits. This, says Mr Roberts of Comcast, will need to be pulled back somewhat over time. There is no sign of that yet. According to Bloomberg Intelligence, a research firm, the average cost of producing a single episode of a scripted drama is close to \$6m, twice the going rate of three to four years ago. This year 16 firms, from Disney to Quibi, a short-form mobile-video platform, will spend a total of \$100bn on content, according to UBS, a bank. That is roughly equal to the sum invested in America’s oil industry this year.

Goofy?

Disney expects its streaming service to break even by 2024, once it reaches 60m-90m subscribers. The plan is for two-thirds of these to come from overseas. Some on Wall Street worry that the firm could lose money on Disney+ for years to come. Streaming may encourage a faster rate of “cord-cutting”, as people cancel pricey pay-TV subscriptions, cannibalising the company’s mainstay cable profits.

Mr Iger has as good as admitted that Disney is betting the farm. But, as he explained in his recently published autobiography, it has little choice. Its rivals appear to share the sentiment. AT&T expects to invest \$2bn in year one of HBO Max and to earn no revenue at the start. Over time, the hope is, investment will go down and revenue will rise; the service is also expected to break even in five years.

Still, a shake-out looks inevitable. There is much uncertainty about who will be left standing. The prevailing view in the industry is that Netflix will be hard to dislodge. It has amassed 158m global subscribers and created a brand that appeals to all ages and tastes. Its recent purchase of rights to “Seinfeld” will help make up for the loss of “Friends” and “The Office”, two of its most popular shows which AT&T and Comcast, respectively, plan to pull from Netflix. It has 47,000 TV episodes and 4,000 films in its American catalogue, according to Ampere Analysis, a research firm. That is far more than the 7,500 episodes and 500 films that Disney+ will offer in its first year. It will spend \$15bn or so this year on original content. Mr Sarandos says there are no plans to adjust Netflix’s strategy in response to all the new competition.

Disney, with its must-see shows and profits that are the envy of the industry, is also here to stay. So in all likelihood is HBO Max, which can tap its parent company’s 170m customer relationships. “We could not do this without AT&T,” says Bob Greenblatt, chairman of WarnerMedia Entertainment, who oversees the group’s direct-to-consumer business. “There is no way that we could so easily reach tens of millions of people on our own.” As with Comcast, whose Peacock service should find a nest in the new media landscape, entertainment is becoming an important source of revenue for AT&T. The phone giant will also use HBO Max to acquire and retain wireless customers. Smaller content players such as Discovery and Sony Entertainment will have to identify niches. CBS and Viacom (which are merging) are planning an arms-dealer strategy—of supplying content to anyone who wants to buy it.

To xfinity and beyond

Over time, firms that can aggregate the various streaming services in bundles with simple interfaces will reap rewards. Consumers are overwhelmed by the volume of content coming their way. They are increasingly fed up with having to search for shows on various platforms. Internet service providers such as Comcast and Verizon can help curate this video onslaught. Comcast’s Xfinity Flex, a new service for broadband-only customers, for example, offers a seamless way to use more than 100

video and music services. A voice-controlled TV remote can search for, say, “the episode in ‘Seinfeld’ where George claims to be a marine biologist”.

Then there are the technology giants. For them, producing entertainment is not an end in itself, says Matthew Ball, former head of strategy at Amazon Studios (and an occasional contributor to *The Economist*). In Amazon’s case, TV is a way to retain Prime subscribers and sell more shoes and loo roll. For Apple it is about selling hardware and expanding its range of services.

Many media executives, particularly the veterans among them, worry about what this means for the future of high-quality content. In their view, much of the film and TV business is now run by clueless outsiders. They cite Apple’s “Stories to Believe in”, as its first TV shows were mawkishly trailed, as evidence of naivety. “The Morning Show”, a drama about working in television starring Jennifer Aniston and Reese Witherspoon, got mixed reviews. “The show, and the service, don’t need to exist,” concluded *Rolling Stone* magazine. Despite kudos for backing critically acclaimed shows like “Fleabag” and “The Marvelous Mrs Maisel”, Amazon’s longer record in TV draws similarly tepid reviews. “Apple doesn’t know what the fuck they are doing and Amazon knows less,” concludes a former film-studio bigwig.

Top management at AT&T wants HBO to produce a lot more programming. In practice, that could include less rarefied fare that might appeal to America’s heartland, not just its coastal elites. HBO’s unabashedly elitist old-timers are not keen on the new strategy. The decision by John Stankey, head of the telecom firm’s entertainment unit, to ramp up production prompted a raft of departures, including that of Richard Plepler, HBO’S head, who gave the green light to “Game of Thrones”. “Stankey wants HBO to compete with Netflix,” says Rick Rosen, a founder of the Endeavour Agency. But many people worry that there is a big risk of HBO’s brand losing its distinctiveness. “After 20 more years of doing it,” jokes one streaming boss, “John Stankey will be a great creative executive.”

It would nevertheless be a mistake to conclude that outsiders will never get things right. Jeff Bewkes, former chief executive of Time Warner, once dismissed Netflix as “the Albanian Army”. Now Hollywood considers the company a legitimate film studio. It is also easy to overstate the role of senior executives at media firms’ parent companies. Much of the creativity in Hollywood comes from lower down, from outside big firms and from informal networks of writers and stars, some with their own production companies, including Ms Witherspoon and Michael B. Jordan.

Tinseltown has a way of absorbing outsiders. Media executives point out that Apple and Amazon are already adapting. At first they put tech types in charge of their TV operations but later installed seasoned film folk with strong links to the creative world. On November 12th it was reported that Mr Plepler is in talks with Apple about an exclusive production agreement. Like many a moneyman seduced over the years, Jeff Bezos, Amazon’s boss, seems star-struck. He goes to all the awards ceremonies, including the Golden Globes—above and beyond what even movie-studio bosses feel obliged to, remarks a former studio executive.

As long as money keeps flowing, creativity should flourish. So far, shareholders appear happy to let it flow. Netflix’s share price has fallen from its peak in mid-2018 but the company remains highly rated relative to earnings. Disney shares have risen by 28% since the company revealed the details of Disney+ to investors in April. AT&T and Comcast are also up this year.

Even before the taps are tightened—as they inevitably will be—the streaming wars have reshaped media well beyond video entertainment. The shift from linear schedules to fragmented, on-demand consumption makes it harder for any one company to exert a big influence on people’s viewing, says Bob Bakish, chief executive of Viacom. Every company needs to adapt accordingly, he adds. It is also weakening the link between entertainment and television news. That is most visible in Rupert Murdoch’s decision to sell much of 21st Century Fox to Disney, a deal which closed in March. He continues to control News Corp, containing newspapers, and Fox Corporation, a broadcaster that owns Fox News and other assets.

Silicon Valley, season two

The wild card hanging over the industry is what the tech giants will do next. Some people think Apple could cut its spending on entertainment or even exit the business. It is seen as more unpredictable than Amazon, which seems committed to making and showing content. Yet the overriding view in Hollywood is that, with their untold piles of cash and their valuations of \$1trn or so apiece, the tech giants are only just getting started. They could easily swallow a media firm or two.

Trustbusters may stymie any such move by Alphabet, Google’s parent, which already owns YouTube. Amazon might find it hard in practice given scrutiny of its rapid expansion (and Jeff Bezos’s ownership of the *Washington Post*). Apple might have an easier time. When Mr Bewkes was looking to sell Time Warner a few years ago, talks were held with Apple as well as AT&T. There has been much chatter about Mr Iger’s comment in his autobiography that, if Steve Jobs were still alive, Disney and Apple would have combined (Disney, for its part, nearly bought Twitter in 2016).

For all Mr Sarandos’s fighting talk, even Netflix could be a target if the streaming wars affect its growth and the firm’s finances come under pressure. As dizzying as the pace of change has been in media in the past few years, it is unlikely to let up. ■

The Ukraine scandal

Teflon Don

Teflon Don

Democrats want impeachment hearings to change opinions on Donald Trump

That will be difficult

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BY 8AM ON November 13th, the line to get into the Ways and Means Committee room already stretched all the way down the long hallway, though the hearing was not scheduled to begin until ten. Cameras bristled at the building's entrance. Congressional interns, journalists and political junkies jostled for position as if they were on a crowded train carriage, and police officers trying to keep a path open grew increasingly frustrated.

The spectators were waiting to watch a political drama rarely seen in America. For nearly two months, Democrats have held their impeachment inquiry privately. Those hearings have become public. Over the next two weeks, Americans will hear testimony from witnesses concerning the allegation that President Donald Trump ordered military aid to Ukraine to be withheld until his counterpart, Volodymyr Zelensky, announced an investigation into Hunter Biden, son of a Democratic presidential front-runner, who served on the board of a Ukrainian natural-gas firm.

These hearings may be the only time that Americans will get to hear from those who know most about the allegation. Republicans control the Senate and will vote on the rules governing a trial there. Unlike public impeachment hearings for Richard Nixon, these hearings are not designed to uncover new information; the witnesses have already testified in closed sessions. They are designed to build a case for Mr Trump's impeachment, which means they must meaningfully shift public opinion about the president. That is not impossible, but neither does it look likely.

A cynical strain of conventional wisdom says that nothing moves public opinion of Mr Trump. That is not quite true, though his approval rating moves in a narrower band than those of past presidents. It has a low ceiling in part because Mr Trump has made so little effort to broaden his appeal beyond his base. It has a high floor partly because he has done an outstanding job of cultivating that base, partly because America is deeply polarised and because, unlike in Nixon's time, when Democrats and Republicans read the same newspapers and watched the same three main news networks, partisans today get their news from different sources, many of which exist to confirm viewers' biases.

But Mr Trump's approval rating is not entirely insulated from external events (see chart). It stood at around 45% when he was inaugurated. His first few months generated ample headlines—a chaotic cabinet-filling process, Michael Flynn's tenure as national security adviser and the failure of the first travel ban—but his rating did not decline until House Republicans introduced the American Health Care Act, their first effort to repeal Barack Obama's Affordable Care Act (ACA).

Over the next several months, Mr Trump's popularity had an inverse relationship with that bill's viability. Whenever it appeared to be dead, or dropped out of the news cycle, his rating rose; when Republicans revived their efforts to repeal the ACA, his rating fell—dropping to 37% in September 2017 when two Republican senators made a last-ditch repeal effort.

Prominent Republican opposition to these efforts may have helped drive Mr Trump's ratings down. John McCain, a late Republican senator from Arizona, voted against the bill. This may have allowed Republicans who liked Mr McCain to register their disapproval, just as support for impeachment among Democrats rose once it won the backing of Nancy Pelosi, the House Speaker.

Two months after the last efforts to repeal the ACA failed, Congress passed, and Mr Trump ultimately signed, a tax-cut package that would have been favoured by any Republican president. His approval rating immediately improved. This could be taken as a sign that Americans approved of the tax cuts. But polls from the month before the law's passage suggest it was unpopular. News coverage was intense in this period but as it subsequently lessened, Mr Trump's approval rating increased.

By early 2018, Congress had grown less ambitious, and Mr Trump's approval rating recovered. It next dipped during the 2018-19 government shutdown, for which he claimed responsibility, claiming that he was “proud to shut down the government for border security.” When the government reopened, his rating recovered.

This pattern should discomfit Democrats and traditional Republicans alike. Democrats have long hoped that Mr Trump would pay a price for his norm-breaking behaviour. But sticking thumbs in the eyes of allies while praising dictators, saying there were “very fine people on both sides” of a march where white supremacists faced off against protesters, spending taxpayer funds at his hotels and separating families at the border all appear to have had little effect on his overall approval rating. The public appears to have processed them as partisan battles, and reacted accordingly.

Yet orthodox Republican policies, such as cutting taxes and health care, could just as well dent the president's approval rating. As a candidate, Mr Trump happily trampled on Republican orthodoxies, promising to protect voters' Medicare and Social Security while condemning the Iraq War—and voters loved him for it. Since the midterms, Republicans have passed no

ambitious orthodox legislation, perhaps because Congress is divided (though not all divided Congresses have been as unproductive as the 116th), or perhaps because Republicans have realised that they are better off simply letting Mr Trump be his norm-breaking self, and earning credit with the White House and the conservative base by publicly defending him.

Of course, Mr Trump is not the only one whom impeachment puts under a microscope. As one Republican strategist noted, impeachment “puts the prosecutors on trial every bit as much as the president.” In 1998, as congressional Republicans prepared to impeach Bill Clinton, voters went to the polls. House Republicans lost five seats—the first time since 1934 that the party controlling the White House added seats in a midterm—while Democrats won unlikely governors’ races, such as Alabama and South Carolina. Republicans were seen as zealous. The inquiry into Mr Trump may be more justified—focusing as it does on the subversion of American policy, rather than on lying under oath about an extramarital affair—but Democrats from swing states and districts face a similar risk.

Since September 24th, when Ms Pelosi announced the start of an impeachment inquiry, Mr Trump’s approval rating has declined by just two points. If the House votes to impeach Mr Trump, the Senate is unlikely to remove him, whatever emerges over the next two weeks. Majorities of voters in swing states oppose removal. Unless a significant share of elected Republicans break with the president, that is unlikely to change. And the more partisan the hearings appear, the likelier voters are to process them as only partisan, and back their own team. ■

Clean slates, rich states

Why states are rushing to seal tens of millions of old criminal records

*A bipartisan movement to do so is under way across the country***Print | United States** Nov 14th 2019

AS A TEENAGER working at a Pennsylvania theme park Keith broke the law. For selling entry tickets on the side he was convicted of a third-degree misdemeanour. That record has dogged him since. Prospective employers shun him, he says. Keith has young children, and some schools block those with a record from being chaperones on trips or coaching a sports team. Before the internet and digitised databases, Keith could have hoped that his infraction would be forgotten once fines were paid or time served. No longer. Firms like InstantCheckMate, Truthfinder or SentryLink can dredge up records quickly. State files are easily searched online at no cost. Nine in ten employers, four in five landlords, as well as mortgage-lenders, universities and schools run such checks.

A bipartisan movement is under way in states to do something about this. Last year lawmakers from both parties in Pennsylvania—nudged by an odd-bedfellows coalition of left-leaning activists, unions, chambers of commerce, Koch Industries and others—voted overwhelmingly to be the first state to do so. In June it started sealing over 30m records, and will soon be finished. That spurred others. In March Utah's governor signed legislation to clean old records automatically, probably 30,000 cases yearly, amid hopes of boosting the supply of local labour. California enacted an automatic clean-slate law last month. That law does nothing to wipe old records, but at least allows for future expungement, from 2021, for arrests and less serious crimes. Michigan is next on the list.

About 19m Americans have felony convictions. Millions more have been arrested, charged or convicted for a misdemeanour. Perhaps one-in-three adults, some 70m-100m people, have a criminal record reckons the Centre for American Progress, a think-tank. Researchers say that eight years after someone has committed a violent offence, or four years after they have committed a property one, they are no likelier than anyone else to break the law.

Old records impose a broad cost, skewing labour markets by discouraging many from job-seeking. An estimate in 2016 by the Centre for Economic and Policy Research, a left-leaning think-tank, suggested the exclusion of ex-felons—mostly men—from job markets cost at least \$78bn yearly in missed gross domestic product. States also miss out on tax revenues. Researchers at the University of Michigan set out the details in a paper in March that matched criminal histories to statewide wage- and jobs- data scraped from Michigan's unemployment insurance scheme. They showed that sealing someone's record coincides with a 13% better chance of getting a job within a year. Wages rise on average by 25% in two years and the poorest gain most. Recidivism was low.

A puzzle was why, despite such gains, so few petition to clear their names says Graham Filler, a Republican state representative in Michigan. Just 6.5% of those eligible (after a spell of staying clean) expunge their record within five years. Fewer than 3,000 Michiganders do so yearly, from an eligible pool of at least 500,000. The answer is clear: it is a tedious process that can take nine months and may cost \$2,000 in legal fees. For someone who has stayed clean for years, it also feels shameful to return to resubmit fingerprints and paperwork. "You don't want to run back to the courtroom," says Mr Filler. Other states can be worse. In Utah it can take two years to seal a record.

Much better, therefore, if public records could be wiped automatically. Technically that's easy. Groups like Code for America help to plug relevant software to states' databases. Politically it is becoming possible too. This month in Michigan several bills sponsored by Mr Filler passed its assembly, with broad cross-party support. They should be law within months, making more crimes eligible to be expunged and implementing automation for old records from early 2022. Others including Louisiana, New York, North Carolina and Washington will probably opt to go automatic in the coming months. Some, like Illinois, that are legalising marijuana are at the same time enacting automatic clean slates for some drug convictions. Congress is also likely soon to consider clean-slate bills for federal records.

Why the bipartisan rush for reform? Polls suggest 70% of voters like clean-slate efforts, and both parties want ways to shrink prison populations. An activist who campaigned for this for years says Republicans mostly seek economic gains from a bigger workforce, while Democrats talk of social fairness and not criminalising poverty. Happily, the same policy suits both.

More broadly, states fret about putting up economic and other barriers for so many Americans with records. In recent years 35 states and over 150 cities have passed "ban-the-box" laws that forbid some employers (mostly in the public sector) asking job applicants about criminal records until late in the hiring process. Will such changes and Pennsylvania's new law help Keith? He believes so, vowing he will "show everyone I can advance". ■

Inverse psychology

America's yield curve is no longer inverted

So, no need to worry about recession? Hmm, maybe

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WHAT DO YOU get when you subtract the yield on short-term government bonds from that on longer-dated ones? A powerful economic omen, if recent history is any indicator. Around a year before each of the past three recessions the yield curve—which shows the return on government bonds from very short durations to very long ones—inverted. In July 2000, for instance, the yield on ten-year Treasury bonds dropped below that on three-month Treasury bills; by March 2001 the American economy had sunk into recession (see chart). When the same thing happened in March this year, alarm bells rang across corporate boardrooms and political campaigns. When the inversion deepened over the summer, traders and pundits began to speak of recession as a real possibility.

Now, however, the curve has righted itself. From mid-October, long-term bond yields rose back above short ones (a move accompanied by other bullish financial-market signs, like rising stocks). Market-watchers are asking: was that a false alarm?

Few economists think a yield curve inversion itself causes a slowdown. The link between the two has more to do with the effect of monetary policy on both. Short-term bond yields go up when the Federal Reserve raises its policy rate to keep the economy from overheating. A drop in long-term yields often occurs when markets expect slower growth ahead: a sign that the Fed has tightened a step or two too many, hitting the brakes hard enough to drag the economy into recession.

This time around, the Fed seemed to take the omen seriously. Over the course of 2019 it has first abandoned plans to keep raising rates (which had been going up since 2015), then cut its policy rate three times, reducing the effective rate from 2.4% or so to 1.55%. The yield curve was not the only thing on the mind of its chairman, Jerome Powell: cuts were also a response to a deepening slowdown in manufacturing and a plateau in the growth rates of prices and wages. But the central bank nonetheless responded faster and more fiercely to an inversion than it usually does. If rate reductions have in fact spared the American economy from recession, then Mr Powell, by reacting promptly to the yield-curve omen, may have actually weakened its predictive power. Few workers, or presidents, are likely to complain.

But the coast is not yet clear. The Fed might yet seize defeat from the jaws of victory. Rather than recognising its own success, it could interpret the un-inversion of the yield curve, and the absence (so far) of a downturn, as a sign that the original omen was a false alarm. Were a new round of headwinds to threaten the American economy and re-invert the curve, the central bank might wrongly dismiss the signal and under-respond, thus bringing on the foretold recession.

It could also be that the slump that was predicted still looms ahead. Less than a year has gone by since the yield curve first inverted. Perhaps more important, each of the past three pre-recession inversions reversed themselves before the ensuing downturn began. So while financial markets are celebrating a bullet dodged, the bullet may still be on its way. ■

Come in, Sand Point
Extreme broadcasting in Alaska

Budget cuts in places that rely on public radio lead to dangerous ingenuity

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FROM THE top of the KSDP radio tower, 200 feet in the air, station manager Austin Roof could see nearly all of Popof Island, a scrap of tundra surrounded by sea at the base of the Aleutian chain. But the picturesque view was not what he was thinking about as 25-mile-per-hour winds bellowed in his ears. “It was blowing like a son of a gun,” he said. The lines he was hoping to use to hoist a 75-pound antenna to the top of the tower were flying out of reach. Sand Point, a village of about 1,000 and the island’s only settlement, lay below him. “I don’t get paid extra for this,” he thought.

In a remote, coastal village like Sand Point, the radio station provides a crucial service, and not just because it broadcasts reports from the commercial fishing industry—the community’s bread and butter—as well as games (home and away) of the high-school basketball team, the local pride and joy. The station is responsible for sending out emergency advisories, which are particularly important here along the Pacific Ring of Fire, one of the most seismically active places on Earth. Over the past five years the Aleutian Islands have experienced three tsunami alerts.

In recent years, as state funds in Alaska for public radio have dwindled, the three-man crew at Sand Point’s radio station has had to take drastic measures: they have been trained in tower climbing and rescue so they can perform maintenance on their 1980s-era, 20-storey radio tower. Otherwise, Mr Roof explained, they would have to spend \$5,000 to get a technician out to the village every time something comes loose.

Since getting trained about four years ago, Mr Roof estimates he and his staff have carried out \$100,000-worth of tower maintenance. At a time when America is in need of trusted—and locally minded—sources of information, this characteristically Alaskan, shoestring approach is helping keep an outpost of broadcasting alive. But even with DIY tower upkeep, Mr Roof recently cut staff hours and salaries, including his own, to make ends meet.

Last summer exceptionally hot, dry conditions whipped up wildfires across Alaska, prompting public radio stations to work round-the-clock to provide updates on road closures and evacuations. In a video announcement, Governor Mike Dunleavy advised Alaskans to “stay tuned to the radio so you can get emergency updates”. Less than two hours later the governor, a devotee of the austerity schemes, vetoed all state funding for public broadcasting.

History in the Mississippi Delta Memories of Emmett Till

Racism versus commemoration in one of America's poorest regions

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ON THE MORNING of November 2nd, six white men and two women, dressed in uniforms of dark tops and khaki trousers, gathered on the east bank of the Tallahatchie river in the Mississippi Delta. One carried the flag of a group called the League of the South, which advocates for "Anglo-Celtic" supremacy. Its founder, Michael Hill, said: "We are here at the Emmett Till monument that represents the civil-rights movement for blacks. What we want to know is: when are all of the white people over the last 50 years that have been murdered, assaulted and raped by blacks going to be memorialised?"

This is not the first time that the spot, which is near the point where, in 1955, the mutilated body of an African-American boy named Emmett Till was pulled from the waters, has attracted racist protests. The monument is the fourth marker on the riverbank. The others have been stolen, thrown in the river, replaced, riddled with bullet holes, cut down, replaced again, shot up again and replaced for a third time. Because of the vandalism, the new memorial, erected two weeks before the protest, weighs 500 pounds and is made of reinforced steel covered in bulletproof glass. It is also surrounded by security cameras. When the cameras picked up the protest and triggered an alarm, the protesters ran away. The event was widely reported as showing that racism still bedevils the commemoration of civil rights in the Deep South. That is true. But there is more to the story than that.

Within a 20-mile radius of the memorial at Graball Landing (named after a dock for unloading goods) are over two dozen places associated with Emmett Till's final days. They include a museum, two restored buildings, a park and nature trail (now overgrown) and a community centre. Poverty, denial, indifference, local rivalries and greed, as well as racist violence, have all beset these commemorations of Emmett Till, and muted the racial reconciliation that public acts of remembrance are intended to bring about.

Twenty miles downstream from Graball Landing stands Bryant's Grocery and Meat Market, a shop in the village of Money. It was here, on the evening of August 24th 1955, that Till, a 14-year-old from Chicago who was visiting his uncle, wolf-whistled at a white shop assistant, Carolyn Bryant. She claimed in court that he had propositioned and assaulted her, though many years later she said that was untrue. Outside the shop stands a roadside sign which says Bryant's Grocery marks the first step in a sequence of events that was to lead to Till's torture, murder and the American civil-rights movement itself.

Paradoxically, putting up the sign contradicts the stance taken by lawyers acting for the Till family at the time. In court, they tried to suppress the episode at the grocery, fearing (rightly, it turned out) that Mrs Bryant's story would be taken by the all-white jury as evidence that Till had broken one of the sexual taboos of the south.

The condition of the building is testimony to a continuing reluctance to confront that historic racism. Bryant's is a ruin. Hurricane Katrina tore the roof off in 2005. The shop front and rafters had collapsed by 2010. A "disgrace" to the local community, said one visitor who offered to buy the site.

Its neglect stands in sharp contrast to the building next door: Ben Roy's gas (petrol) station. Whereas Bryant's has been left to rot, the gas station has been lovingly restored with a grant from the state of Mississippi to something like its condition in the 1950s. The garage has no connection with the events of Emmett Till's murder but restoration was justified on the specious grounds that people may have sat on the porch discussing it (which is unlikely: locals ignored the story for decades). The contrast between Bryant's and Ben Roy's, argues Dave Tell of the University of Kansas and author of a new book, "Remembering Emmett Till", shows that, in the Delta, it is easier to commemorate the charm of rural nostalgia than the ugly facts of lynching.

Both buildings and the village of Money have been bought by the Tribble family, descendants of one of the jurors who acquitted Emmett Till's killers. Over the years, they have rejected a stream of offers to restore Bryant's. At the moment, according to Jerry Mitchell of the *Clarion-Ledger*, a Mississippi newspaper, they are trying to get the National Park Service to buy the ruin for \$4m, but that is many times its value and the park service rarely buys properties. In 2018, surveying the wreck, a relative of Emmett Till said of the Tribble family "they just want history to die."

They are not the only ones. The state of Mississippi has done little to keep Till's history alive. Commemoration has been left to a local group, the Emmett Till Memorial Commission (ETMC), founded in 2006 with the aim of using commemoration to promote racial reconciliation; it has nine black and nine white board members. Lacking money or statewide influence, it has had to raise cash however it can. In practice, that has meant accommodating historical accuracy to other requirements.

Emmett Till was killed by Mrs Bryant's husband, Roy, two half-brothers, J.W. and Leslie Milam, a brother-in-law, Melvin Campbell, and at least three other men. They beat the 14-year-old literally to a pulp before gouging out one eye with a penknife and shooting him. The photograph of his mutilated face turned the killing into a cause célèbre in Chicago, where the picture was published. Roy Bryant and J.W. Milam were arrested and acquitted at a trial in Sumner, 30 miles north of Money. To add insult to barbarity, they admitted they had killed Till in a magazine, *Look*; they were paid \$3,150 for the story.

Contested connections

In 2006 the courthouse where their trial took place was dilapidated and its restoration became the first test of the ETMC's ability to use other aims to advance its goals of commemoration and racial reconciliation. These mixed aims caused problems from the start. "All of the blacks", said one commissioner, "focus on how horrible the crime was, and the need for acceptance of responsibility." A white member said "we see this Till thing as a way to get funds to restore the courthouse." The building has been beautifully restored and is still working. The ETMC offered an apology to the Till family on behalf of the county. But the interpretative centre, which was supposed to teach about the murder and reconciliation, is a dusty shell, itself in need of restoration.

It is a similar story at Glendora, a small town 16 miles south, which has by far the largest collection of memorials, including an Emmett Till museum. They reflect the efforts of the long-serving mayor, Johnny B. Thomas, to bring business to his poverty-stricken town. Glendora is one of the poorest towns in the impoverished Delta ("our Haiti," says one local). There is even an NGO, Partners in Development, devoted to combating poverty in Haiti, Guatemala, Peru—and Glendora. In 2009 the Mississippi Development Authority sent a team of economists to the town. After describing it as a place with "no hope", they said its only viable asset was civil-rights tourism. Mr Thomas enthusiastically set about providing sites for the hoped-for visitors.

The Till museum was financed using money from the US Department of Agriculture meant for rural broadband services in rural areas. The redirection of funds may perhaps be justified: Glendora has no broadband but the museum is still going. The trouble is that the town has so little to do with Till's history. One of the murderers lived there, but his house disappeared decades ago. The town's other claimed connections—that Till's body was thrown into the river there, weighed down by a chunk of farm machinery from a local factory tied round his neck with barbed wire—have not withstood scrutiny. Efforts to enroll Glendora's museum on America's National Register of Historic Places have been rejected. To judge by the number of memorials, Glendora was the birthplace of the civil-rights movement. In reality, these sites reflect Mr Thomas's efforts to combat the poverty of his town.

The lynching of Emmett Till did help launch the civil-rights movement in America. A later black leader, the Rev Jesse Jackson, said Rosa Parks, the first lady of civil rights, had told him that she refused to give up her bus seat to a white man, precipitating the first large protests against segregation, because "I thought of Emmett Till and couldn't go back". To reflect this national significance, Patrick Weems, the executive director of the ETMC, wants the National Park Service to take over the sites. Local efforts have run up against multiple problems. But they testify to the refusal of Emmett Till to go away. ■

Lexington

The strange love-in between Donald Trump and Recep Tayyip Erdogan

It is killing the US-Turkish alliance

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NO ONE KNOWS why President Donald Trump is so fond of autocrats—including his “friend” Muhammad bin Salman, “highly respected” Viktor Orban, beloved Kim Jong Un and of course Vladimir “so highly respected” Putin. But there is little doubt his predilection has turned out better for the strongmen than for America.

Compared with subjugating a country, handling Mr Trump is not hard. The autocrats quickly realised the president wants a special rapport with them more than almost any policy outcome. That is why Abdel-Fattah al-Sisi—Mr Trump’s “favourite dictator”—felt able to pull Egypt out of the administration’s main Middle Eastern gambit, its so-called “Arab NATO”, a day after visiting the White House. It is why even Xi Jinping, at the rough end of Mr Trump’s tariffs, has received a few plums, such as the president dismissing pro-democracy protests in Hong Kong as “riots”. Yet no foreign leader has taken more skilful advantage of Mr Trump’s soft spot than his guest in Washington this week, Recep Tayyip Erdogan.

Even before he persuaded Mr Trump to abandon the Syrian Kurds last month, Mr Erdogan was responsible for a serious deterioration in American-Turkish relations. Angered by Barack Obama’s failure to intervene more forcefully against his enemy Bashar al-Assad, among other grievances, the Islamist leader refused to take strong action against the jihadists crowding across Turkey’s southern border to join Islamic State. When the Obama administration backed another of his enemies, the Syrian Kurds, against the jihadists, Mr Erdogan looked for other ways to hit back.

He has strained Turkey’s relations within NATO and pushed it further away from the European Union. He has embraced America’s regional adversaries, Iran and Russia, from which Turkey has bought a missile-defence system that could give Mr Putin access to NATO military secrets. Lest America miss the hint, Mr Erdogan’s bodyguards roughed up journalists outside the venerable Brookings Institution during the Turkish leader’s last call on Mr Obama, in 2016. During his first call on Mr Trump, they launched a more vicious assault on anti-Erdogan protesters and American police officers that left blood on the pavement outside the Turkish ambassador’s residence in Washington. Already alarmed by Mr Erdogan’s democratic backsliding, Congress, the Pentagon and State Department were appalled. Many questioned whether Turkey was still the crucial democratic Muslim ally, and “window onto the Middle East”, that Mr Obama and his predecessor George W. Bush saw it as.

Yet Mr Trump, subject to an unrelenting charm offence by Mr Erdogan, declared the two countries “as close as we’ve ever been.” Beyond his usual regard for strongmen, he perhaps noted the many coincidences between himself and Mr Erdogan. Both are populists with a flair for stirring up religious conservatives. Both are fixated on interest rates and the “deep state” (a phrase that originated in Turkey). Both mix politics, family and business. Both have promoted a son-in-law—in Mr Erdogan’s case his finance minister, Berat Albayrak—over two less able businessmen-sons.

Mr Erdogan’s approach stressed these similarities, with Mr Albayrak contacting Jared Kushner via a Turkish business partner of Mr Trump’s. Some suspect there may be more than national interests at stake. Mr Trump had investments in Turkey (and claimed to have a “little conflict” of interest there) before he became president. It seems equally possible Mr Erdogan has endeared himself to the president merely by making the bilateral relationship feel like a mano-a-mano business one, with no side-deals involved.

Mr Trump, who calls the Islamist a “hell of a leader” and “friend of mine”, has deferred legally mandated sanctions on Turkey for its Russian missile-defence deal. His administration has also delayed penalising a Turkish bank for sanctions-busting in Iran. And the more anger this has stirred in Washington, among Elizabeth Warren, Mitch McConnell, in fact almost everyone outside the president’s family, the more vindicated Mr Trump seems to feel. He considers squealing from the Washington establishment an end in itself—and Mr Erdogan has egged him on. “The US has an established order that we can call a deep state—of course they are obstructing,” Turkey’s president lamented.

Mr Erdogan’s mastery of Mr Trump was even clearer over the Syrian Kurds. In demanding America step back while his troops pushed them from his border, he appealed to Mr Trump’s inchoate desire to withdraw from Middle Eastern wars. Yet the US-backed Kurdish operation in north-eastern Syria was a textbook example of America not exposing its troops to a necessary war. The Kurds were doing the fighting on its behalf. That is a role Turkish troops might have been expected to fill; yet Mr Erdogan considered Islamic State a lesser enemy than Mr Assad or the Kurds.

Mr Trump’s abandonment of the Kurds was an equally textbook blunder. It has empowered Mr Assad and Russia, with whom the Kurds have made a desperate alliance. It has made America look fickle and weak. It will lead to no significant withdrawal of American forces. It was also unnecessary, because American envoys were already hatching a plan to move the Kurds back from the Turkish border. And it has further aggravated anti-Turkish feeling in Washington—as shown by the House of Representatives’ vote to recognise the Ottoman empire’s onslaught against Armenians as a genocide and sanctions bills against Turkey in both chambers.

This seems to have constrained Mr Trump’s largesse to Mr Erdogan a bit. Though he showered him with endearments at the White House this week, he did not promise the sanctions’ let-off Mr Erdogan craves. His restraint may be brief—with Mr

Trump's Republican critics about to switch to defence mode as his impeachment looms. Yet the mutual resentments unleashed by Mr Erdogan's grandstanding and Mr Trump's pandering will in any event be enduring. At every level beneath the presidency, America and Turkey have turned away from each other, even as the foundations of their alliance, NATO, the EU and American ambitions in the Middle East, are being eroded. It is not certain they can be turned back. ■

Bolivia

Rainbow resignation

Rainbow resignation

Evo Morales leaves Bolivia dangerously divided

The president's surprising departure will not by itself end civil strife

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BY NOVEMBER 12TH, two days after Evo Morales abruptly quit as Bolivia's president, a tense calm had settled on La Paz, the administrative capital. The streets were deserted. Buses and cable cars were idle. Most residents stayed indoors. The army was in control of the streets. But the lull did not last. On the following day violence broke out again in several regions, including La Paz. At least ten people have died in unrest leading up to and following Mr Morales's decision to step down.

The renewed violence was a response to the naming of an interim president, Jeanine Áñez, who until Mr Morales's resignation was the highest-ranking opposition politician in congress as the senate's second vice-president. She has appointed a cabinet and promised to hold fresh elections soon. Much depends on whether these are accepted as legitimate by the millions of Bolivians who still revere Mr Morales. The signs so far are ominous.

Mr Morales fell because he took reverence for granted, and imagined it to be more widely shared than it is. Elected Bolivia's first president of indigenous origin in 2005, he expanded the rights of indigenous people and used money from sales of the country's natural gas to reduce poverty. Before he became president, "poor people like us could never be more than a maid, driver or gardener", says Lilian Peralta, who works in an electronics shop in La Paz. Such sentiments helped him win re-election twice.

But as it became clear that Mr Morales intended to remain president, with almost unchallenged power, perhaps for life, Bolivians balked. In a referendum in 2016 they rebuffed his bid to run again for re-election in defiance of the constitution he had introduced. The constitutional court, which was by then an appendage of the presidency, said he could run anyway.

When the election was finally held last month, he was declared the winner. He avoided a run-off vote against Carlos Mesa, his closest rival, by just 35,000 of the 6.1m valid votes cast. His party, the Movement to Socialism (MAS), maintained its majority in congress. But suspicions of fraud arose even as votes were being counted. Mr Morales's decisive lead appeared after a mysterious suspension in the publication of results. Tens of thousands of people, both for and against the president, took to the streets across Bolivia. An anti-Morales "civic strike" shut down Santa Cruz, Bolivia's biggest city.

Mr Morales tried to restore calm, first by inviting the Organisation of American States (OAS) to audit the election results. Then, when the OAS team reported evidence of fraud, he promised new elections. That did not placate protesters. Police said they would no longer obey their commanders' orders. On November 10th Williams Kaliman, the commander of the armed forces, suggested that Mr Morales step down so that "peace can be restored and stability maintained". Until then, the army had been a "strong bastion of defence" for the president, notes Franklin Pareja, a political scientist at San Andrés University in La Paz. His authority gone, Mr Morales fled to Mexico, which granted him asylum.

The stability that General Kaliman hopes for will be hard to achieve. Mr Morales is not helping. He called his departure a "civic, political and police coup", adding, "My sin is being indigenous, a union leader and a coca farmer." As he departed for Mexico, he promised in a tweet to "return with greater strength and energy".

That night his supporters burnt houses, businesses and buses in La Paz. The next day thousands marched through El Alto, a neighbouring city, waving the wiphala, the indigenous rainbow flag, and chanting, "Yes, now, civil war!" Pro-opposition rioters reportedly ransacked Mr Morales's house in Cochabamba in central Bolivia. Videos appeared of police officers ripping the wiphala off their uniforms.

Bolivia's new leaders risk inflaming such divisions. Ms Áñez, a conservative from the department of Beni in the north-east, is now posing for photos with indigenous people. But she has provoked them in the past. Recently she tweeted a photo of people wearing indigenous dress along with jeans and tennis shoes. She commented: "Natives??? Look!". Some people took that as a derisive questioning of their ethnic authenticity.

Although she was next in line to be president after the most senior MAS officials quit, congress did not ratify her appointment. The MAS boycotted the session of congress that was summoned to install her, depriving it of a quorum. It did not ratify Mr Morales's resignation for the same reason. The constitutional court, which had blessed Mr Morales's run for re-election, came to Ms Áñez's rescue. Her assumption of the presidency was legal, it ruled, because Mr Morales had fled and order needed to be restored. MAS legislators have said they will vote to "nullify" her appointment.

Perhaps more powerful than the interim president is Luis Fernando Camacho, the leader of Comité pro Santa Cruz, the organiser of the Santa Cruz strike. He is a divisive figure. He initially called on all MAS legislators to resign, and proposed that a "transition junta" drawn from society, which the constitution does not provide for, run the interim government. Now he

backs Ms Áñez. A fervent Catholic, Mr Camacho declared in the presidential palace vacated by Mr Morales that “the Bible has re-entered” the building. Some of his followers believe that the ex-president is anti-white. Mr Camacho has lately sought to heal such rifts by urging Bolivians to respect the wiphala.

Much as Mr Camacho may wish it, Mr Morales’s resignation does not mean that the MAS is going away. “These people are forgetting that the MAS is the largest political force in the country,” says the mayor of a town in a rural part of southern Bolivia. He, like other MAS officials, says opposition supporters have threatened him.

Mr Mesa, the runner-up in the presidential election, believes that Bolivia needs agreement between the MAS and the opposition on how to restore democracy. He has urged MAS legislators to help choose a new electoral tribunal, which would help legitimise the forthcoming elections. Without such forms of co-operation between foes and friends of Mr Morales, unrest may continue, warns María Teresa Zegada, a sociologist at San Simón University in Cochabamba. Although the protests started with the people, it is now up to politicians to come up with ways of ending them peacefully, she says. Leaving the pursuit of a solution to angry Bolivians on the streets “will lead to a tragedy”. ■

When “sí” means “we’ll see”

Why planning weddings in Mexico is hard

Many guests do not show up

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MEXICAN WEDDINGS are big. At middle-class nuptials a 500-name guest list is not unusual. In the United States the average is 140, according to the Knot, a wedding-planning website. But a typical Mexican *boda* is smaller than it might be. Many guests do not turn up even after they have said they will. Sometimes two-fifths of them are no-shows, says Cecilia Lara, a caterer in Zacatecas, a state in central Mexico. Some cancel days, or even hours, in advance—too late to change the booze and food order.

It seems to be a matter of culture. When Americans marry in Mexico the attrition rate is much lower, says Diego del Rio, who plans weddings for Mexican and American couples. Last-minute cancellations are almost unheard of.

Why is Mexico’s dropout rate so high? Long guest lists are part of the problem. They mean that Mexicans can get two dozen wedding invitations a year. Attending them all would be costly. Social convention plays a part. Americans normally break the bad news quickly, says Mr del Rio, but that is not the Mexican way. Instead, the practice is to accept, and then find some excuse (car crashes and absent nannies are popular) or simply not turn up. A woman who organised her mother’s wedding in Oaxaca says the bride’s best friend cancelled on the morning of the event. Her reason: “new circumstances”.

César Félix-Brasdefer, of Indiana University, has found similar contrasts between Mexican and American behaviour in other situations. In one study students from both countries acted out how they would refuse a request from a professor that they enroll in a class. Americans were more likely simply to say no. Mexicans used more “indirect” language, says Mr Félix-Brasdefer. He thinks Mexican culture prizes warmth and a sense of connectedness in social relations, and so discourages bluntness.

Mexico’s writers have sought to understand this trait. In “Instructions for Living in Mexico”, Jorge Ibargüengoitia, who died in 1983, described his countrymen’s habit of deferring bad news until the last possible moment. Octavio Paz, Mexico’s greatest poet, wrote that even in a quarrel, Mexicans prefer “veiled expressions to outright insults”.

Saying no is especially hard when the bride and groom ring up a week or two before the nuptials to ask if a guest is coming. When wedding planners are involved, they make those calls and get more honest answers. “If we ask them, they might tell us no,” says Ms Lara, who plans weddings as well as catering for them. “If the bride does it, they probably won’t.” Paz and his first wife, Elena Garro, avoided all this awkwardness. They wed in such haste that just four other people were at the ceremony. Alas, the marriage was not a happy one.

Communal relations in India

Ram rod

Ram rod

The Supreme Court hands India's biggest communal flashpoint to Hindus

The government must compensate Muslims by giving them land to build a mosque

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IT WAS A decision that had been decades in the making, yet was still a messy fudge. On November 9th India's Supreme Court granted Hindus possession of a site in the city of Ayodhya that is claimed as the birthplace of Rama, an incarnation of the god Vishnu. A 16th-century mosque had stood there until a fanatical mob demolished it in 1992, sparking a decade of sporadic nationwide violence that left several thousand dead, most of them Muslims. The court called the demolition "an egregious violation of the rule of law". It also fulfilled the mob's goals by ordering the government to create a trust that may build a Hindu temple on the site. Muslims are to be compensated with land nearby for the construction of a replacement mosque.

Fears that the verdict would spark renewed violence had prompted schools and offices to close in parts of northern India, amid security precautions that included colossal police deployments, instructions to media to avoid incitement and the suspension of the internet in parts of the country. Politicians of all stripes, as well as spiritual leaders of both faiths, called for calm and acceptance of the court's verdict. But simple exhaustion with the dispute, which has festered for nearly as long as India has been independent, may have been the main reason for the generally muted public response.

It helped, too, that the five judges on the Supreme Court bench ruled unanimously. Aside from offering five acres (two hectares) of land in compensation for the 2.8 lost, their ruling gave solace to Muslims through the indignant language it used to describe the destruction of the Babri Masjid. That may inject some energy into the separate criminal trial of Hindu nationalist leaders charged with provoking the attack on the mosque, which has lingered in lower courts for decades.

Zafaryab Jilani, a lawyer for the Muslim plaintiffs, said they would respect the ruling, but were "not satisfied" and noted "several contradictions" in the judges' logic. It is hard to understand why the Muslim charity that ran the mosque before its demolition would not be considered the owner of the land on which it stood. "The court seems to set great store in a lack of documentary evidence that prayers were held in the mosque before 1857, yet finds no trouble in the lack of evidence that any Hindu services were held there, either," says a lawyer who prefers to remain anonymous, owing to the sensitivity of the case. Commentary on social media has been less circumspect. "Possession is nine-tenths of ownership, but demolition is the whole thing," read one sarcastic tweet. "Realised today that 'If you break it, you own it' applies outside of retail as well!" another disgruntled netizen quipped.

Most Indians, however, seem broadly relieved that the saga has finally come to an end. Shekhar Gupta, an experienced and canny commentator, described the ruling as "wonderfully nuanced" and predicted it would put the controversy to rest. The opposition Congress party welcomed the court's judgment. It not only opens the way for construction of a temple, said Randeep Surjewala, a party spokesman, but also prevents the ruling Bharatiya Janata Party (BJP) and its Hindu chauvinist allies from seeking to capitalise on the issue any more.

Perhaps, but for now prime minister Narendra Modi and his party are basking in satisfaction. The promise to build a giant temple at the purported site of Lord Rama's birth has been a rallying cry for Hindu nationalists since the 1980s, and a fixture of the BJP's election manifestos since 1996. Having won a second five-year term in May by a landslide, Mr Modi has fulfilled a string of promises to his Hindu nationalist base, including splitting Jammu & Kashmir, India's only Muslim-majority state, into two parts, and stripping it both of its special status under the constitution and of statehood.

Will this triumphant end to the BJP's long crusade now allow the prime minister to focus on more pressing issues, such as a faltering economy? And will it cool the fervour of Hindu extremists enough to soothe communal relations, which have grown increasingly strained under Mr Modi? Some Hindu hardliners are already pushing for more, claiming that other mosques, and even perhaps the Taj Mahal, the famous tomb of a Muslim emperor and his wife, are built atop ancient temples. Happily, the likelihood of mobilising a large chunk of Hindu opinion in support of a fresh agitation is probably limited. The campaign to demolish and replace the Babri Masjid began 70 years ago with the surreptitious planting of a Hindu idol in 1949. The ensuing lifetime of strife is not a price that many Indians will be willing to pay again. ■

Self-reinforcing bias

Japan's electoral map favours the ruling party*Demography helps to keep it that way*

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THE ELECTION in July for the upper house of Japan's parliament was "remarkably unfair", Kazuhiko Tomita, a judge on the northerly island of Hokkaido, ruled in October. Worse, it was held in a "state of unconstitutionality". He was referring to Japan's severe malapportionment—the division of the country into legislative districts with widely differing populations.

In Miyagi there are almost 976,000 registered voters for every member the prefecture sends to the upper house of the Diet, or parliament. In Fukui prefecture, the equivalent figure is below 326,000. That means, in effect, that voters in Fukui get three times more representation in the upper house than their counterparts in Miyagi. The discrepancies in the lower house are not quite as bad. The most populous district, in Tokyo, has only twice the voters of the least populous, in Tottori, a largely rural prefecture on the west coast.

Japan's constitution is a little woolly on how districts are to be drawn up. It gives the authority to do so to the Diet itself, but states, "All of the people are equal under the law" and "There shall be no discrimination because of race, creed, sex, social status, family origin, education, property or income." Campaigning lawyers have repeatedly used these clauses to challenge malapportionment in the courts. Hidetoshi Masunaga leads the group that brought the case decided last month in Hokkaido. As he observes, "One man, 0.5 votes" is not exactly democratic.

The courts have repeatedly ruled against malapportionment, although they typically decline to throw out the results of elections held with skewed maps. Instead, judges have established a principle that the biggest constituency in the lower house should have no more than double the voters of the smallest. The maximum discrepancy in the upper house is 3:1.

The Diet has repeatedly adjusted district boundaries in an attempt to conform to this rule. But lawmakers have been reluctant to abandon the idea that there should be at least one member in both houses from each of Japan's 47 prefectures.

Apportionment is a problem in many democracies. America's constitution allots two senators to each state, regardless of population, meaning that Wyoming has a senator for every 290,000 residents, versus one for every 20m Californians. In Malaysia, the biggest district in parliamentary elections last year had eight times the population of the smallest. Moreover, the difference in Japan has narrowed markedly since the courts began to weigh in. The ratio between upper-house districts used to be as much as 6:1, says Taku Sugawara of the University of Tokyo.

But in Japan malapportionment is particularly persistent and severe because of the country's unusual demography. Big cities such as Tokyo continue to grow, even as the population as a whole shrinks. Some rural prefectures are losing people at an increasing rate.

The disparities in population will again exceed the limits set by the courts by the time the next election comes around, says Kenneth McElwain of the University of Tokyo. Hokkaido's population is projected to shrink by a third in the next two decades. Three-quarters of its municipalities could disappear in the coming years, according to the Japan Policy Council, a think-tank. It is huge, accounting for 20% of Japan's territory, but only 4% of its population. Its MPs will end up representing ever larger districts. That will mean less contact with voters, who will already be feeling left behind by demographic change.

Moreover, the rapid shrinking of the rural population means that each new electoral map quickly becomes biased in favour of relatively elderly and conservative districts in the countryside, at the expense of big cities. That benefits the ruling Liberal Democratic Party, which is stronger in rural areas than urban ones. It dominates the Diet, and its MPs have naturally been reluctant to embrace wholesale electoral reform. That, says Mr Masunaga, is why he and his colleagues have turned instead to the courts. The next step, says Noriyuki Okuyama, a lawyer involved in the Hokkaido suit, is to take their case to the Supreme Court. "One person, one vote is a prerequisite for democracy," he insists. ■

The opposition twitches

Cambodia eases up on one dissident to distract attention from another

The government hopes to avoid European sanctions for repressing democracy

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ON THE DAY that Kem Sokha was released from 14 months of house arrest, he decided to stay at home. The Cambodian opposition leader did meet politely with foreign bigwigs who were at last free to call on him, but declined to address waiting reporters. He was still barred from participating in politics, he explained, and did not know what the courts might construe as a political act. He still awaits trial on trumped-up treason charges. The Cambodia National Rescue Party (CNRP), which he used to lead, remains banned. And despite a court's decision on November 10th to ease other restrictions on him, he cannot leave the country.

Ironically, the little breathing room Mr Kem Sokha has been afforded is probably thanks to the efforts of his predecessor as leader of the CNRP, Sam Rainsy, to enter Cambodia. In August the former finance minister announced that he would return to Cambodia on November 9th from self-imposed exile in France. (He fled four years ago after being convicted of defamation.) Ahead of his arrival, the government arrested more than 50 people aligned with the opposition. Military reinforcements were sent to the border with Thailand.

The army need not have worried. On November 7th the Thai authorities announced that Mr Sam Rainsy would not be allowed to enter the country, much less cross it on his way to Cambodia. The same day Mu Sochua, deputy leader of the CNRP, was detained for hours upon arrival in Malaysia. The Malaysian and Thai governments said cravenly that they did not want to undermine relations with Cambodia. Eventually the Malaysian authorities relented, allowing Ms Mu Sochua and Mr Sam Rainsy into the country. The whole rigmarole afforded the opposition leaders lots of attention in the media and reminded the world of the ongoing subversion of democracy by Hun Sen, Cambodia's strongman of 34 years.

The CNRP used to frighten Mr Hun Sen. It won 45% of the vote in parliamentary elections in 2013, despite a huge institutional bias in favour of the ruling Cambodian People's Party (CPP). It seemed likely to do even better in the following poll, in 2018. So the government persuaded the courts to ban the party before conducting a farcical election in which the CPP won every seat.

Now the CNRP presents a different sort of problem. Its members' mistreatment appeals Western governments, which spent billions in the 1990s on a UN mission to restore Cambodia to democracy. The European Union, long disgusted with Mr Hun Sen's repression, is considering whether or not to impose tariffs on Cambodian exports, threatening the country's successful garment industry and its 700,000-odd workers. "Economic security in Cambodia is very fragile," says Vannarith Chheang of the Asian Vision Institute, a Cambodian think-tank.

Last year the EU bought about two-fifths of Cambodia's exports, worth some \$6bn. It is the country's second-largest trading partner, after China. On November 12th it sent a confidential report to the Cambodian government with the results of a nine-month investigation into the country's violations of human and workers' rights. A final decision on the tariffs is expected in February. By improving the treatment of Mr Kem Sokha and directing the courts to release another 70 political prisoners, as it did on November 14th, the government doubtless hopes both to improve its standing in European eyes and to distract attention from Mr Sam Rainsy's grandstanding.

There is a possible ancillary benefit for the Cambodian authorities: Mr Kem Sokha's release might revive a rivalry with Mr Sam Rainsy. "Their dream is of a cage fight," reckons Sophal Ear of Occidental College in America. At any rate, the government suddenly sounds quite complimentary about the man it is trying for treason. "In terms of political courage and reputation, he has scored much higher than the populist and cowardly Sam Rainsy," declared a recent editorial in the *Khmer Times*, a mouthpiece for the regime. ■

Spring flames

Unprecedented Australian bushfires stoke a debate about climate change

The government thinks only stuck-up urbanites would suggest a connection between the two

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EVEN FOR A country accustomed to bushfires, the scenes look apocalyptic. Swathes of eastern Australia have burned. As *The Economist* went to press, more than 129 fires were raging in the states of New South Wales and Queensland. Together they have swallowed more than 2.5m acres (1m hectares), producing smoke so thick that it can be seen from space. At least 200 homes have been incinerated and four people killed in the inferno.

Never before have bushfires struck Australia on such a scale. Many people have been surprised by their ferocity. The blazes have reached the outer suburbs of Sydney, a city of over 5m people (the police are investigating whether some of the fires that threatened it were lit on purpose). They were also edging towards Noosa, a popular beach resort in Queensland, where residents were evacuated. “We are used to floods, not flames,” says Denise Knight, the mayor of Coffs Harbour, a city on the northern coast of New South Wales, close to one of the biggest blazes.

Bringing such fast-moving fires under control is difficult and dangerous. Firefighters have flown in from other parts of Australia and from New Zealand to help battle the conflagration. The armed forces have deployed helicopters. Schools have been closed, as evacuation centres fill up. Houses are being doused in a pink potion that slows the advance of flames. But firefighters fear the worst is not over.

The kindling was laid by the drought that has been ravaging eastern Australia for two years. It has killed trees and dried turf which would normally be too damp to burn, creating what Martin Rice of the Climate Council, an NGO, calls “tinderbox conditions”. The fires have been fanned by strong winds and scorching temperatures. In New South Wales, 300 new blazes started on November 12th alone—“and it isn’t even summer yet”, observes Matt Sun of the state’s Rural Fire Service.

Such horrors are looking ever less like an anomaly, however, and more like the rule. Fire seasons, once confined to the hot summer, are growing longer—something many scientists ascribe to climate change. Average temperatures in Australia have risen by over 1°C since 1910. Heatwaves are increasingly common and winter rains are becoming less heavy. This is a recipe for infernos, says Mr Rice. Many Australians worry about such changes. Claire Pontin, deputy mayor of New South Wales’s MidCoast Council, has seen her “damp, green land transform in a matter of years”. Her council declared a climate crisis weeks before the fires started closing in.

The conservative government coddles Australia’s coal industry, however. It attacked the opposition Labor Party’s plans to cut emissions at elections earlier this year and won. The prime minister, Scott Morrison, has refused to say whether a link may be drawn between the fires and climate change. Instead he has offered “thoughts and prayers” to the victims.

Other members of his coalition are more vociferous. A former deputy prime minister, Barnaby Joyce, reasoned that Greens were partly to blame, since they have campaigned against controlled “back-burning”, which clears the bush of dried-out undergrowth. “We’ve had fires in Australia since time began,” said his successor, Michael McCormack. He dismissed attempts to link them to global warming as “the ravings of some pure, enlightened, woke capital-city greenies”. ■

Nat guilty

Monks in Myanmar have a new target

Not content with bashing Muslims, they are now turning on adherents of folk religion

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THEY HAD travelled for hours, some for days. It didn't matter. They had made it to Taung Pyone. Every August hundreds of thousands of pilgrims from all over Myanmar descend on this village 20km north of Mandalay to commune with nats, spirits willing to bless the faithful with good fortune if they are given the right offering. Nats accept bananas, coconuts, booze and cash—the more the better. At this year's festival, devotees clutching wads of bills queued under a gazebo to meet one of the nats' flesh-and-blood envoys, a medium. But the time-honoured display of piety is marred by seven Buddhist nuns with shaved heads and pink robes, who are bickering with the devotees. Nat worship, the nuns insist, is base superstition—a stain on the true faith.

Buddhism is the overwhelmingly dominant religion in Myanmar. Roughly 90% of the population is Buddhist. There are some 500,000 monks and a further 75,000 nuns in a country of 54m. Holy folk have often been at the forefront of politics, leading the failed “saffron revolution” against military rule in 2007, for instance. More recently nationalist monks have helped propagate the idea that Buddhism is under threat in Myanmar, and urged holy war against Muslims—a campaign that helps explain public indifference about the army's campaign of ethnic cleansing against the Rohingya, a Muslim ethnic group living in the extreme west of the country.

Some monks rail not against perceived external enemies, however, but against cankers within Buddhism. Han Tun, a 65-year-old spirit medium or *natkadaw*, was at Taung Pyone festival three years ago when ten Buddhist monks wielding metal rods disrupted a spirit-possession ceremony he was attending. They threatened to beat the 50-odd people there if they refused to hand over their offerings to the nat. Han Tun and the other mediums complied, but the monks tore down the shrine's decorations and smashed statues of the nats anyway. “It was the worst experience of my life,” says Han Tun.

It would not be the only act of desecration he would witness. Han Tun and three other veteran *natkadaws* claim that, starting about ten years ago, Buddhist monks began to target nat-worshippers. Sometimes they just scolded and insulted them; at other times they physically threatened them, stole offerings of food and money and destroyed statues of nats. These attacks have taken place not just in Taung Pyone, they say, but at other festivals and spirit-possession ceremonies around the country. Khin Swe Oo, the custodian of the most prominent nat shrine in Taung Pyone, says that shouting, threats and physical destruction of holy objects have occurred every year for the past five years. A decade ago, she notes, such disturbances were rare.

Anawrahta, the most celebrated king of medieval Burma, drew up an official list of 37 nats to be assimilated into the Buddhist pantheon. To this day every Burmese village has a shrine or two to local nats. Yet many Burmese Buddhists disdain spirit worship. Keziah Wallis of Victoria University of Wellington in New Zealand says that the rift first appeared in the 19th century, when a new understanding of Buddhism as a rational philosophy free of the mummery of religion began to take hold. Raucous spirit-possession ceremonies, lubricated with alcohol and hypnotic music, were at odds with this conception of Buddhism. Some began to describe nat worship as a corruption of the faith, to be tolerated only because it was traditional.

No longer. Hostility towards the spirit lords has grown over the past decade, says Ms Wallis, due in part to the opening of Myanmar to the world. Urbanites are ashamed of what they see as Buddhism's “dirty, shameful, crazy cousin”, as she puts it. Similar movements to cleanse Islam of what purists see as the superstitions of uneducated villagers have a long history in Indonesia and Malaysia. Efforts have been made to purge Buddhism of folk religion in Sri Lanka and Thailand, too.

Establishing the identity of those responsible for the attacks described by the *natkadaws* is difficult. No individual or organisation has claimed responsibility. Zawana Nyarna, an abbot from Taung Pyone, claims that the monks from his monastery and the six others in the village are innocent. Several *natkadaws* think that some, perhaps all, of the individuals perpetrating these crimes are “false monks”—either recent initiates with little religious education or thieves donning maroon robes in order to steal nats' offerings more easily. However, this explanation may simply be a way to avoid direct criticism of revered monastic authorities. Han Tun believes that the monks he encountered intended not only to steal donations but “to violate, to intervene with our beliefs”. Khin Swe Oo, the custodian of the shrine in Taung Pyone, believes the individuals responsible are inspired by prominent monks who fulminate regularly against nats in widely disseminated sermons.

The main focus of Ma Ba Tha, a radical Buddhist organisation which was banned in 2017, was to alert Burmese to the threat of Islam. One of its leading members, a monk called Wisetkhana, does not believe that devotees of nats pose nearly as great a threat to Buddhism as Muslims do, nor does he condone the violent treatment meted out to them. But he has written a book that argues nats are evil. It is called “Protecting the Race and Religion”.

Not all monks abhor the spirit cult. A few years ago Khin Swe Oo asked Zawana Nyarna and other local abbots for help in preventing the attacks at Taung Pyone. Monks from local monasteries now observe the festivities, interrogate threatening monks, disrobe them if they are impostors or send them home if they are genuine monks. “Because of their help, it's getting better,” says Han Tun. But as Khin Swe Oo leans back in the bamboo chair in front of her house, just a stone's throw from the

shrine, a pagoda covered in gold leaf, she closes her eyes. The attacks are still happening, she says. The burden of protecting the spirits weighs heavily on her. ■

Banyan

Why no one can afford to call off peace talks in Afghanistan

America, the Taliban and the Afghan government appear to be talking again

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IT HAD LOOKED like a complete rupture. In early September President Donald Trump tweeted that he had not only cancelled a summit with negotiators from the Taliban, but also “called off peace negotiations”. The hopes that had been swelling that America and the Taliban would find a way to end Afghanistan’s long, gruesome conflict were dashed. Instead, America seemed to be resorting to unilateral measures, trimming its forces in the country from 14,000 soldiers to fewer than 12,000.

Yet this week America, the Taliban and Afghanistan’s American-backed government were in contact once again. The proof was a rare hostage swap. Kevin King and Timothy Weeks, an American and an Australian, were abducted by gunmen in 2016 while teaching at the American University of Afghanistan in Kabul, the capital. Now they are to be released in exchange for Taliban prisoners held by the Afghan government in a deal brokered by Zalmay Khalilzad, America’s pointman on Afghanistan.

Mr Khalilzad spent a long time preparing the ground for peace talks, especially getting backing for them from neighbouring countries such as Pakistan. Months haggling with Taliban emissaries in Qatar followed. By September they had agreed on the outlines of a deal, to be sealed at the summit Mr Trump cancelled. The Taliban would have promised both to prevent international terrorist groups like al-Qaeda from operating in Afghanistan and to enter talks on the country’s future that would involve the government, which it had previously dismissed as illegitimate. In return, the United States would have gradually removed most of its troops. Mr Khalilzad’s efforts marked America’s first real search for a political settlement since its invasion in 2001. That toppled the Taliban but never crushed them.

Mr Trump’s frustration with the negotiations was understandable. He cited a Taliban bombing that had killed an American serviceman just days before the planned summit as the reason for the rupture. But growing criticism from Republican allies, such as Lindsey Graham, a bellicose senator, must also have unsettled him. They worried that the negotiations were a mere cover for capitulation.

The release of three senior Taliban captives in exchange for the professors will also gall American hawks. The trio were an organiser of suicide bombings, an uncle of the Taliban’s deputy leader and Anas Haqqani, brother of Sirajuddin, the head of the ruthless Haqqani network—in effect, the leader of the Taliban’s military operations. Yet some analysts read the swap as a signal not only that the two sides are talking again, but also that the Haqqani network, the most violent and radical element of the Taliban, is ready to be part of any settlement.

America, meanwhile, has no good alternatives to talks. Simply to withdraw its forces, as Mr Trump might prefer, would be to admit that nearly two decades of American policy has failed. It would intensify the conflict, weaken the Afghan government and risk a proxy war driven by the likes of India and Pakistan.

Yet the Taliban, too, have reasons to negotiate. They have the advantage on the battlefield—by controlling vast rural areas, sending suicide bombers into the capital and making shocking raids on provincial cities. But they know they cannot win the war.

What is more, the limbo in Afghan politics—the results of a presidential election in September are still being tallied, and may lead to a second round in the spring—is not as much of an obstacle to peace as it seems. The Taliban have long wanted to negotiate a power-sharing deal with a broader range of grandees—including local strongmen, civil-society groups and politicians of all stripes, not just the government. If that model is taken up, then the uncertainty about the outcome of the election will matter less.

And what if this all goes pear-shaped? Laurel Miller of the International Crisis Group, a think-tank, is surely right in arguing that for American troops to remain in Afghanistan in perpetuity—an idea which General Mark Milley, chairman of the joint chiefs of staff, seemed to approve of this month—is no Plan B. For a start, under Mr Trump, no American commitment can be trusted. His abrupt withdrawal of troops from northern Syria points to what he could do in Afghanistan—with disastrous consequences. All the more reason for the Afghan government to explore an accommodation with the Taliban. For ordinary Afghans peace cannot come soon enough.

Street-sleepers No shelter for some

No shelter for some **Homelessness has become a problem in China's cities**

Order-obsessed officials treat street-sleepers warily

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EVERY EVENING around nine o'clock, dozens of homeless people start to trickle into Sanlian Taofen, a 24-hour bookshop in Beijing. Early arrivals jostle for one of the comfy chairs. Latecomers have to sleep on the cold floor. Guan Zhong, a homeless man from the eastern province of Shandong, calls the shop his "Wednesday home". On other days the unemployed 42-year-old sleeps on benches in round-the-clock cafes. Mr Guan says he frequently changes venues to avoid "abusing the generosity" of managers. The bookshop is his favourite, not least because it is warm and quiet at night. "Burger King outlets are the worst—they expel people like me," he says.

Thirty years ago homeless people were a rare sight in China's cities. Strict controls on internal migration made it difficult for rural residents to move to urban areas. Most city-dwellers lived in housing supplied by the government, for which they paid peppercorn rents. Since then much has changed. Migration controls have eased. Most urban housing has been privatised. Villages have been flattened to make way for growing cities. Street-sleepers are still less visible than they are in the centres of some rich-world cities. But they are far more common than before.

Most of the homeless arrived from the countryside, as did Mr Guan. In the cities they cannot access local welfare, including social housing. That is because of the *hukou*, or household-registration, system. This usually allows people to receive such benefits only in their place of birth. So if they cannot afford to rent a home, they often have little choice but to sleep rough.

That is a problem for officials, who often regard visible homelessness as an eyesore that reflects badly on their cities. Only a few years ago, street-sleepers and beggars were routinely rounded up, detained and forcibly sent back to their home towns in the name of maintaining "social order and stability". But the law allowing this was abolished in 2003 after a public outcry over the death of a migrant who was being detained in the southern city of Guangzhou for lacking the documents that were then required to live legally in an urban area. Since then officials have become less heavy-handed. They appear to accept that urbanisation will cause some homelessness, and that this will not threaten stability as much as they once feared.

The 800-odd "custody and repatriation" centres, where homeless people were once detained, have been turned into "relief stations". The police are no longer involved in managing them. That work is now entirely undertaken by the Ministry of Civil Affairs, which is responsible for aid and charitable work. The stations—now numbering about 1,500—offer food, clothing and temporary accommodation, without charge. They are prohibited from doing anything to street-sleepers against their will. Admission is supposed to be voluntary.

As Mr Guan's sleeping habits suggest, however, homeless people often stay clear of the government's shelters. Last year the relief stations received 1.6m visitors, about the same number as a decade ago. But Yu Yanping of Wuhan University of Technology estimates that only 30-40% of homeless people use them.

Some street-sleepers fear that, if they were to use such shelters, officials might coerce them into returning to their home towns. Relief stations are required by law to "persuade" those they assist to go back. They often do this by offering a free train or bus ticket, and asking relatives to take them in. Some people, like Mr Guan, do not want relatives to know their whereabouts. Mr Guan owes his extended family in Shandong 20,000 yuan (\$2,850). He worries what would happen should a relief station contact them. A Chinese academic says homeless people who are "professional beggars" see a day spent at a shelter as a day of lost earnings.

Those who are wary of the shelters can find little help from NGOs. That is because the government still regards homelessness as sensitive and is reluctant to let NGOs get involved. In 2017 the government of Beijing evicted many migrants from poor-quality housing and ordered volunteers who tried to shelter the newly homeless from freezing temperatures to stop doing so. During politically important events, street-sleepers are often corralled inside government shelters to keep them from tarnishing the Communist Party's image. "Vagrants and beggars are not allowed to appear on the streets," said a directive issued in September by one district of Beijing. It told officials to "collect" such people for the sake of "stability" during the lead-up to festivities marking the 70th anniversary of Communist rule on October 1st.

In the eastern city of Nanjing the manager of a government relief station offers your correspondent a rare glimpse inside, on condition she and the facility not be named. It looks like a medium-priced hotel. Its spacious rooms have flat-screen televisions and en-suite bathrooms. Its yard is lined with exercise equipment. "Some people abuse our hospitality," the manager says. Every year before the lunar new-year festival, "people come to us pretending to be homeless just so they can spend a night here

and get a free train ticket home.” She is getting better at checking. Any one with a pricey phone is probably a fraud, she says. Those admitted who want to return to the streets are “free to do so”.

The government allows a few NGOs to provide limited aid. One is He Feng, a charity in Beijing that receives funding from the Ministry of Civil Affairs. Zhang Xiao, its founder, leads a team of eight people who criss-cross Beijing every day, offering food and other necessities to the homeless. He Feng sends regular reports to the ministry. These include the charity’s estimates of the total number of long-term homeless people in central Beijing (several hundred, by its last count) and the main reasons people give for sleeping rough. The NGO does not tell the ministry the names of the homeless or their precise locations, Mr Zhang says.

A few of the street-sleepers are petitioners who have travelled to the capital to seek redress for local injustices. The authorities are especially nervous of such people, fearing they might stage protests. Government-run shelters are not for them. Those caught (their sheaves of papers, including court documents and letters of complaint, give them away) are often whisked to “black jails” where they are held until officials arrange to have them escorted back to their home towns. Vagrants are tolerated, but not the wrong sort. ■

Towards the brink

Confrontation in Hong Kong is turning ever uglier

Both protesters and police are becoming more violent

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“SOCIETY HAS been pushed to the brink of a total breakdown.” So warned a senior policeman on November 12th, after a 23rd successive weekend of unrest on Hong Kong’s streets, with no sign of the usual weekday lull. A day later the central government also put it starkly. Hong Kong, it said, was “sliding into the abyss of terrorism”. The past few days had been grim indeed—a protester dying of an injury apparently suffered while running away from police, a man being shot at close range by an officer and someone being doused by protesters in flammable liquid and set on fire. This week police for the first time battled with students on campus.

Some observers had thought the protest movement might begin to fizzle out amid widespread anxiety about its impact on the economy and in the absence of any sign that it might achieve the goal of full-fledged democracy. But the death on November 8th of the fleeing student, Alex Chow, fanned the flames. On the following day, a Saturday, tens of thousands of protesters gathered across the city to mourn. On Monday protesters tried to enforce a “general strike” in response to Mr Chow’s death by blocking streets and railway lines and throwing petrol-bombs at trains. The shooting that day of an unarmed protester who, police say, was trying to grab an officer’s gun increased the tension.

Both sides deny their own excesses. Many protesters initially dismissed the case of the man who was set on fire after remonstrating with demonstrators as the work of a stuntman. At a press conference following Monday’s mayhem, Carrie Lam, the city’s leader, responded to allegations of widespread police brutality by accusing the press of distorting “isolated incidents”.

Mrs Lam, who during the summer expressed eagerness for dialogue with her critics, now dismisses protesters as “enemies of the people”. The police label those who refuse to denounce the protesters as accomplices. But moderate politicians who eschew violence still mainly blame the authorities for the recent escalation.

Mrs Lam’s foes are everywhere. Every day this week bankers and professionals have taken to the streets during lunch-breaks, blocking traffic as masked protesters nearby smash traffic lights and set fire to bins. Even pro-establishment legislators have criticised her lack of ideas. Some would like her to be even tougher with the protesters (on November 9th a Chinese official said Hong Kong urgently needed tougher security legislation). But John Tsang, a former finance secretary who competed with Mrs Lam in 2017 for the post of chief executive—and might have won, if the public rather than a committee stacked with Communist Party sympathisers had been asked to vote on the matter—told local radio that it was up to the government to “start to de-escalate”.

To many, the police have become the real enemy. On November 12th riot officers tried to enter the rural campus of the Chinese University of Hong Kong (one of their volleys of tear-gas is pictured), but were repelled by students who threw petrol bombs and fired arrows. Staff who tried to mediate were tear-gassed. There were tense standoffs at other universities, too.

Many speculate that the government will use the violence to justify imposing a curfew or cancelling district elections set for November 24th, even though Mrs Lam still says she wants the polls to go ahead. Pro-establishment candidates normally perform well at the district level, but this time pro-democracy politicians are expected to make considerable gains. That could unnerve Mrs Lam and the leadership in Beijing, since control of the 18 district councils could give the pro-democracy camp a bigger voice in Hong Kong’s legislature (six out of its 70 seats are reserved for councillors) and in the committee that chooses the chief executive (councillors make up nearly one-tenth of its 1,200 members). On November 12th the *People’s Daily*, the Communist Party’s main mouthpiece, said that holding “fair elections” would require “decisively” ending the riots. That seems a distant goal. ■

Chaguan

The West is now surer that China is not about to liberalise

It is far less certain what to do about it

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THERE WERE moments during a recent gathering of Americans, Chinese and Europeans, invited to Stockholm to discuss China's rise and the new world order, when Chaguan wondered whether anyone would say anything cheerful. At last, halfway through two days of doomy talk about trade wars and some scratchy exchanges about whether Westerners have a right to criticise China's leaders, a Chinese participant sounded an optimistic note. Brexit is an opportunity for China, he enthused—once out of the European Union, Britain will need all the friends it can get.

That was as upbeat as discussions got at the Stockholm China Forum, a semi-annual meeting for politicians, officials, ambassadors, business bosses, scholars and journalists hosted by Sweden's foreign ministry and the German Marshall Fund, a think-tank. The forum was founded to bridge transatlantic differences over China policy after a crisis in 2004, when France enraged America by proposing to lift an EU arms embargo on China imposed after the crushing of the Tiananmen Square protests in 1989. Chaguan has joined the meetings since 2008 and has seen them turn testy before, despite endless supplies of good coffee and Swedish cinnamon buns. At a forum in 2018 Americans and Europeans sparred over President Donald Trump's foreign policy. This time was different. A shared fatalism marked panel discussions and offstage conversations. There was a common conviction that China is not about to change its model of authoritarian state capitalism.

A consensus has been building for a while in the West that China is determined to rise on its own disruptive terms. Yet now this gloomy view seems entrenched. It is testing longstanding beliefs about globalisation and the benefits of openness. Interdependence used to be seen as a way to avoid conflict, but now it is clear that it can make our countries vulnerable, a European lamented. Much talk in Stockholm was of Mr Trump's tariff war, and speculation that it might end with China buying its way to a truce, perhaps by purchasing shiploads of soyabeans from farm states vital to Mr Trump's re-election. There was cynicism about what that would mean. Some feared that it would allow China to get away with ignoring American demands for structural changes to China's economy. Americans and Europeans share many concerns about China's version of state capitalism, which requires foreign firms to buy access to Chinese markets by handing over technology to local rivals and sensitive data to the government, and—as American basketballers just learned—to adopt China's line on Hong Kong, Taiwan and other nationalist shibboleths.

Interviewed on the forum's sidelines, a senior Trump administration official insisted that trade negotiators were still focused on making China mend its ways. But the official argued that failure to achieve that would prove America's point about the limits of engagement with China's leadership: "Assuming that China digs its heels in and refuses to do any structural reforms, the entire world will be more aware of China's strategy and behaviour."

Chinese participants insisted that their country was also seeking a negotiated end to the trade conflict, but also that it had grown to depend too much on American markets, technology and even education. "Decoupling is the intention of both countries," said one. Another urged Europeans to remember their countries' ambitions for strategic autonomy and to reflect on their disagreements with America, a country gripped by a "cold-war mindset".

Europeans shrugged off that unsubtle attempt to sow divisions. Still, participants saw differences between America, which dreads China's growing power—including its military and political clout—and Europe, which mostly worries about China's economic impact. Trump officials would like American firms and allies to do less: notably meaning less trade with China in sensitive technologies. Europeans hope to manage relations by doing more. That means at once more trade with China—on November 11th British ministers cheered a decision by a Chinese firm to buy British Steel, an ailing industrial concern—but at the same time more business with other markets, as a form of hedging against China-related risks. Europeans also want to do more to keep important industries alive at home. In January this year the German Federation of Industry warned against "excessive dependence" on the Chinese market. That reflects alarm among corporate chieftains at the political price of doing business in and with China, and at how much that cost might rise. European countries are more willing than before to screen Chinese investments or academic exchanges for national-security risks. That is true even of free-trade champions like Sweden, which used to worry that calls for reciprocity with China were code for protectionism.

To compete with China, do not copy China

Grizzled veterans in Stockholm were realistic about the limits of Western unity and bravery in the face of China. At least the West should avoid self-harming policies, they agreed. Americans and Europeans warned against pouring public funds into domestic firms to match the subsidies that China's companies enjoy. China would win that race, they said. It would be better to enforce rules against market-distorting subsidies for any firms, foreign or domestic. If Western governments must choose sectors to favour, they should help by investing in research, education or infrastructure, and by welcoming skilled immigrants.

Long ago at these gatherings Western speakers urged China, too, to be smart. They would craft clever ways to explain why liberal economic and even political reforms would be in China's own interests. Not this time. A reform-minded Chinese speaker

said his country was “too big, too old and too conservative” to adopt a different model. Some of the Westerners dared to suggest that autocratic statism might harm China in the long term. Chinese counterparts scolded them for “cultural arrogance”. Talking is better than fighting, but it can still feel pretty bleak. ■

Israel and Palestine

A kaleidoscope of possibilities

A kaleidoscope of possibilities

The politics surrounding an assassination and its aftermath in Gaza

Hamas stays quiet as Israel's leaders manoeuvre at home

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Editor's note: This article was updated at 8am GMT on November 14th, 2019, to reflect the announcement of a ceasefire, as well as a higher death toll.

THE MISSILE that was launched shortly before dawn on November 12th was just the beginning. Around 4am that morning, an Israeli aircraft struck a house in Gaza, killing Baha Abu al-Ata, a commander in the Palestinian Islamic Jihad (PIJ) militant group, and his wife. The group responded by firing hundreds of rockets at Israel (causing no deaths). At least 34 Palestinians, many of them militants, were killed in subsequent Israeli air strikes.

There is a gloomy pattern to these repeated escalations, the last of which occurred in May. Both sides unleash salvos of fire for two or three days, then accept a truce, usually brokered by their Egyptian neighbours. PIJ angrily warned that this time would be different. "We are going to war," said Ziad al-Nakhleh, the group's leader. Binyamin Netanyahu, the Israeli prime minister, "has crossed all red lines." Assassinations in Gaza have occasionally led to wider conflicts. The killing of a Hamas commander in 2012 set off a brief war.

For all its bluster, though, PIJ agreed to a ceasefire within 48 hours of the first shot. As the second-largest militant organisation in Gaza, PIJ is smaller (and less pragmatic) than Hamas, the Islamist group that has controlled the territory since 2007. Hamas pointedly declined to join the fighting, though it did not stop PIJ from firing rockets, as it often does when smaller militant groups attack Israel without permission. Leaders of the two groups were co-ordinating in a so-called "operations room". But Hamas did not haul out—or loose off—its own arsenal of rockets.

Hamas rose in the 1980s on a credo of resistance against Israel. Since it took power it has fought three wars against the Jewish state. The results have been disastrous for Gaza's 2m people: thousands dead and tens of thousands of homes destroyed. Since 2007 a punishing Israeli and Egyptian blockade has paralysed the economy; tens of thousands of young people have left, seeking work and a future elsewhere. There is little popular support for more war. And though Hamas does not permit much open dissent, many Gazans privately wish to see the group gone altogether.

To maintain its grip on power, Hamas would rather strike a truce with Israel in exchange for an easing of the blockade. But this would be unpopular with its own militant cadres. More thoughtful members of Hamas worry about becoming, in effect, a religious version of the Palestinian Authority (PA), the feckless semi-autonomous government in the Israeli-occupied West Bank. The group is struggling to control smaller factions keen on conflict with Israel, many of them stocked with disillusioned ex-Hamasniks. In August Israeli soldiers killed four armed Palestinians who were trying to cross the border.

So far Israel has refrained from clobbering Hamas and risking a bigger conflict. Moreover, leaving it in control of Gaza meets Mr Netanyahu's aim of keeping the leadership of the Palestinians divided between Hamas and the PA in the West Bank.

He is also thinking about domestic politics. His coalition of right-wing and religious parties lost seats in two inconclusive elections in April and September. He has been stuck in a temporary minority government for months. Though Israeli generals back his claim that the timing of the assassination was based wholly on circumstances in Gaza, it was politically fortuitous for Mr Netanyahu.

To form a new government he must convince the centrist Blue and White party to join him in coalition. But its leadership has so far refused, citing the criminal investigations against the prime minister, which are expected within weeks to culminate in bribery and fraud indictments. Mr Netanyahu has tried to break down their resistance by wooing Blue and White's leader, Benny Gantz, a former army chief. He brought him into recent discussions over Gaza, with a view towards appointing him defence minister.

A newcomer to politics, Mr Gantz seems tired of the incessant campaigning and manoeuvring of the past year. He is rumoured to be softening. He could accept an arrangement whereby he joins a Netanyahu-led coalition in return for a promise from the prime minister that he would suspend himself if he is indeed indicted.

Mr Gantz would have to convince his colleagues, most of whom appear set against the idea. They are running out of choices. Blue and White could try to form a minority government supported by Arab-Israeli parties, which would not actually join the coalition. But the Gaza operation has made that harder. In tweets and speeches before and after the assassination, Mr Netanyahu accused Arab-Israeli politicians, who oppose military action in Gaza, of supporting Palestinian "war crimes"—and warned Mr Gantz against co-operating with them.

The deadline for forming a government is December 11th. If no candidate succeeds by then, Israel will be plunged into its third election campaign in a year. Mr Netanyahu would remain as caretaker prime minister. Polling suggests that another vote is unlikely to make it any easier to form a government. Reaching a deal with Hamas looks simple by comparison. ■

A Sala-fifth column

The battle for Tripoli could be decided by the Madkhalis

An obscure group believes Khalifa Haftar is Libya's rightful leader

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FOR MONTHS General Khalifa Haftar, Libya's most powerful warlord, has besieged Tripoli, struggling to wrest control of the capital from the UN-backed "government of national accord" (GNA). More than 1,000 people have been killed. Mr Haftar is aided by Emirati and Egyptian air strikes. But the lines hardly move. A little-known group of Salafists (ultra-conservative Muslims) called the Madkhalists may yet tip the balance.

Under orders from their leader, an octogenarian Saudi preacher named Rabee al-Madkhali, the Madkhalists outside the capital have joined Mr Haftar's ranks, while those inside encourage fighters to give up. "Put down your weapons, go home, pray and read the Koran," says Fahmy Naas, a follower in Tripoli. War is *fitna* (strife or sedition), he insists.

The Madkhalists make up less than 10% of Libya's people. Those with guns number between 8,000 and 25,000. The GNA's commanders blame the group for undermining morale. They say Madkhalists in Tripoli are in regular contact with their brethren on Mr Haftar's side and constitute a fifth column. "If Haftar breaks into the capital, the Madkhalists will bring their supporters cheering onto the streets," says an official in Tripoli.

Madkhalism took root in Libya under Muammar Qaddafi. Unlike Libya's other Islamists, the Madkhalists shunned the Arab spring of 2011, when Libyans toppled the old dictator. Their support then shifted to Mr Haftar on the basis of *ghalaba*, the principle that God makes the rightful leader win. The *wali al-amr*, or rightful leader, Mr Madkhali insists, is *wali al-aqwa*, the strongest one.

The Madkhalists make strange bedfellows of Mr Haftar, who claims to be fighting Islamist terror. In Libya's east, which he rules, they have been handed control of the religious-affairs ministry. From their pulpits they order women indoors and stage book burnings.

They have also stoked sectarian tension by destroying the shrines of Sufi mystics and declaring Ibadism, the sect of Libya's Berber minority, heretical. Their henchmen have beheaded defiant sheikhs and killed confidants of Libya's grand mufti, who supports the GNA.

But the Madkhalists earned the gratitude of many Libyans by restoring order to neighbourhoods after the collapse of Qaddafi's regime. Many young men have been drawn to their simple politics. Mr Madkhali tells followers to show unflinching obedience to the *wali al-amr*.

Saudi Arabia is suspected of financing the Madkhalists, who helped Mr Haftar defeat Islamist fighters in Benghazi and turf Islamic State out of Derna, farther east. In Tripoli the Madkhalists man the Special Deterrence Force, or RADA, which controls the airport. They have mostly stayed out of the fight with Mr Haftar.

Some fear the Madkhalists might turn into something like al-Qaeda. "You can't use people and guarantee that they won't go off-track," says a Salafist politician in Egypt. "People are not machines."

Stony ground

Brazil and Japan plotted a farming revolution in Mozambique

But instead of sowing soya, they planted seeds of opposition

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SQUINT AT THE grasslands of northern Mozambique and they look a bit like the *cerrado*, a savannah in central Brazil. Could they be transformed by intensive farming, just as the thickets of the *cerrado* have given way to fields of soya that transformed Brazil from a food importer to one of the world's great breadbaskets? That was the thought behind Prosavana, a programme bringing Brazilian and Japanese expertise to Mozambique. Initiated in 2009, it aimed to lift agricultural production across an area of 107,000 square kilometres, roughly the size of Bulgaria.

Politicians heralded Prosavana as a landmark example of "South-South" co-operation. Few farming projects in Africa could match its ambition. It painted a future of which many agronomists on the continent dream: productive and commercially astute smallholder farmers and large plantations exporting to the world. Yet it became a study in hubris, and an illustration of why top-down schemes so often fall short of expectations.

Some 60% of people in sub-Saharan Africa earn a living from their fields. Most of them do not use improved seeds or fertiliser. A typical farm in Kenya or Uganda produces about one-third as much maize per hectare as one in China, and about one-sixth as much as an American one. Africa also has much of the world's remaining uncultivated land. Stories of untapped potential are drawing commercial farming to the continent. Some agri-businesses cultivate vast holdings of their own. Others enter arrangements to buy cash crops from locals. They often run into opposition, not least over land. Many quietly retreat.

Prosavana encountered similar suspicion. A decade on there is nothing to show for it except a small research lab and a few model farms. In a field outside Ribaue, a northern town, farmers have been helped by technicians to check market prices and start a savings group. Onions grow in neat rows. But this is merely a scratch on an immense landscape. With the main phase of Prosavana not yet begun, the project has mostly had the effect of planting the seeds of a civil-society movement.

The first that many Mozambicans heard of Prosavana was an article in a Brazilian newspaper in 2011. "Mozambique offers land to Brazilian soya", ran the headline. The story described Mozambique as "Brazil's next agricultural frontier" and cited a claim by a Brazilian agronomist that half of northern Mozambique was "unpopulated". In 2013 a Prosavana planning document was leaked. Although it stressed the importance of small farmers, it also envisaged linking them to corporate farming clusters. A private-equity fund hoped to raise \$2bn for related agri-business projects.

Activists denounced the scheme as a "massive land grab". They went on a study trip to the *cerrado* and joined forces with movements in Brazil and Japan, in a mirror of Prosavana's trilateral structure. An open letter calling for the suspension of the project was signed by 23 organisations in Mozambique and 43 abroad. Each side of the argument saw the other as out of touch and vaguely foreign—shills of evil corporations or dupes of clueless NGOs.

A gulf opened between two irreconcilable world-views. Many farmers in northern Mozambique practise shifting cultivation, moving to new lands when the soil needs a rest. Agronomists say that rapid population growth is making this impossible. Antonio Limbau, the Mozambican civil servant who oversees Prosavana, argues that farmers must use hybrid seeds and synthetic fertilisers to farm more intensively, so that "the same piece of land feeds more people".

Farmers call this argument patronising. "We are not children," says Costa Estevao, who leads the peasant union in Nampula province. He says, accurately, that Prosavana aims to eliminate traditional ways of cultivation. He worries too about costly fertiliser and poisonous pesticides. Anabela Lemos, an environmental activist, says that governments and corporations want "to destroy the *campesina*", or peasant class. "That's a big mistake, because they're the ones who feed the world," she says.

This kind of rhetoric reflects a "persistent misunderstanding" of the project, sighs Hiroaki Endo, who heads the Japanese aid agency in Mozambique. Technocrats are still redrafting their master plan, which they say will benefit small farmers. But whatever emerges from endless consultations will fulfil neither the hopes nor the fears invested in it. Brazilian farmers lost interest in Mozambique when they discovered the land was less empty than they thought. And they have since opened a new agricultural frontier back home, where the government of Jair Bolsonaro is letting the forest burn.

An unintended outcome of Prosavana has been the strengthening of Mozambique's civil society, which forged new bonds through its campaign. Meanwhile in the northern grasslands, farmers invoke the ghost of the project to explain all kinds of unrelated mischief. Beside a road in Nampula province villagers recount the visit of a strange man who gave no name but asked for 50 hectares of their land. The tracks of his bulldozer are still imprinted in the earth. Who is he? Will he come back? Locals have no idea, but the word on their lips is "Prosavana". ■

The resource curse

How west Africa's gold rush is funding jihadists

Weak states cannot secure the mines from extremists

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FOREIGN STAFF working in Burkina Faso for a Canadian gold-mining company, Semafo, have the option of flying in helicopters over roads infested with bandits and jihadist. Local employees at its Bounboua mine are less fortunate. On November 6th five buses carrying 241 workers drove straight into a massacre. A survivor told news agencies that men shouting “*Allahu akbar*” (Arabic for “God is great”) overwhelmed their small security escort. The gunmen sprayed the vehicles with bullets before boarding and murdering those on them. At least 39 people were killed and another 60 were wounded.

The attack was but the latest outrage in Burkina Faso, which is struggling to contain a fast-growing jihadist insurgency. Along with Mali and Niger, it has become the main front line against terrorists in the Sahel, a dry strip of land that runs along the edge of the Sahara. This year alone the conflict has killed more than 1,600 people and forced half a million from their homes in Burkina Faso. But the latest incident hints at a worrying new trend: a battle by jihadists and other armed groups to take control of the region's gold rush.

Although gold has long been mined in the region—Mali is thought to have been the world's biggest producer of the precious metal in the 13th century—it has boomed in recent years with the discovery of shallow deposits that stretch from Sudan to Mauritania. International mining companies have invested as much as \$5bn in west African production over the past decade, but the rush has also lured hundreds of thousands of unsophisticated “artisanal” miners. The International Crisis Group (ICG), an NGO, reckons that more than 2m people are involved in small-scale mining in Burkina Faso, Mali and Niger. In total they dig up 40-95 tonnes of gold a year, worth some \$1.9bn-4.5bn.

This rush—in a region where states are already weak and unable to provide security—has sucked in a variety of armed groups and jihadists, including the likes of Ansar Dine and Islamic State in the Greater Sahara, which killed four American soldiers in an ambush in Niger in 2017.

The jihadists probably have direct control of fewer than ten mines, reckons Mathieu Pellerin of the ICG. But they have influence over many more. In some areas artisanal miners are forced to pay “taxes” to the jihadists. In others, such as Burkina Faso's Soum province, the miners hire jihadists to provide security, says the ICG. Other armed groups such as ethnic militias are also in on the bonanza and collect cash to guard mines. International mining firms may also be funding the jihadists by paying ransoms for abducted employees or “protection” money to keep mining, according to a study published by the OECD, a club of mostly rich countries.

Informal mines also provide a recruitment pool for extremists, since they are full of fit young men who know how to use explosives. Researchers say they have heard about several instances of radical preachers going to artisanal miners to recruit fighters. They also provide a ready source of explosives for bombs.

Just as panning for gold takes time and patience, so too will be the process of extracting jihadist groups from the mining boom. This should be done at both ends of the supply chain. States could start by providing tax incentives to miners who agree to sell through official channels, which would reduce the amount that jihadists and criminals earn from smuggling. For the moment much of Burkina Faso's artisanal production is sneaked into Togo, which barely taxes the shiny stuff. Togo does not produce much gold domestically but it sent more than 12 tonnes of gold to Dubai in 2016. Gold is also taken out of the Sahel through major airports in hand luggage.

Another step would be for the region's police and army chiefs to prioritise guarding mines and their environs. With security could come services such as schools and clinics as well as the governance needed to formalise the industry and prise it away from extremists.

France, which already has some 4,500 troops across the region, said earlier this month that it would expand its mission by deploying significant ground forces to Burkina Faso for the first time. It is also trying to form a new contingent of European commandos to reinforce its fight against jihadists. Neither move suggests that the end is in sight. ■

Grubs up

Why eating bugs is so popular in Congo

The creepy superfood is rich in protein and magnesium

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AT A MARKET in Goma, a city in the east of the Democratic Republic of Congo, an old woman pulls the wings off live grasshoppers and tosses their wriggling bodies into a bucket. She collected the insects from the airport at 5am that morning, and will go back the next day. Grasshopper season has just begun.

Throughout November dozens of grasshopper-hunters gather at Goma airport most mornings. It is one of the few buildings in the city with constant electricity, and the lights that mark the runway attract swarms of the bug. People stuff them into plastic bottles to take to market. Buyers season them with salt and eat them with rice or cassava.

Selling insects is more lucrative than selling fruit. A small pile of grasshoppers fetches the equivalent of \$0.60 (Congo's GDP per person is \$562). Gathering them costs nothing but time. Caterpillars are more valuable still. Once they are boiled and salted, a large handful will sell for \$1.20—the same price as ten bananas. Households in Kinshasa, the country's sprawling capital, consume about 300 grams of caterpillars (about 80, if they are averagely juicy) a week.

The Congolese have been eating bugs for centuries. People say caterpillars, in particular, are not just tasty but healthy. "Our ancestors taught us to eat them to protect us from illnesses," says Leonie Lukambala, a seller. She believes they can even help people infected with HIV.

Caterpillars are packed with potassium, calcium and magnesium. A hundred grams of them will provide a person with the required daily intake of each of these minerals. They are richer in protein than beef or fish. A handful is packed with about 500 calories, more than are in a fast-food cheeseburger. But that is a boon, not a drawback, in a country that suffers from one of the world's highest rates of malnutrition.

Others around the world should catch up. Bug farming takes up less land, requires less food and does less damage to the environment than meat or fish farming. Crickets, for example, need 12 times less food than cattle to produce the same amount of protein. Bugs can even be fed farm and kitchen waste, such as rotten fruit and vegetables.

Hunting insects is easy, too. Anyone can wander into the forest—or, indeed, to the airport—and gather caterpillars, ants and grasshoppers. But that can also lead to bad outcomes. The wrong variety of insect can poison consumers. Mrs Lukambala says she knows which caterpillars to pick because her family has gathered them for generations (the safe kind have red heads and fall out of trees). Your correspondent tried a sample: it was brittle and had a smoky taste. Add one more to the 2bn people worldwide who chomp insects.

Germany

Are the black zero's days numbered?

Are the black zero's days numbered?

Why Germany sticks to strict budget rules despite a slowdown

Don't expect the government to splurge

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RARELY DO GERMANS celebrate such measly growth. But the country had spent so long fearing a slide into recession that even its third-quarter expansion of 0.1%, announced on November 14th, felt like a success. After the economy shrank by 0.2% in the second quarter, strong domestic demand and a surprisingly good export performance were enough to avoid Germany's first technical recession since 2013. Still, the country's long boom, in which well over 4m jobs have been created in ten years, is plainly over.

The fear of looming recession has revived a familiar debate in Germany: should the government spend more to ward off danger? Under the so-called *schwarze Null* ("black zero") policy, Germany's budget has been in surplus since 2014. Last year, aided by booming employment and low debt-service costs, it ran to a whopping 1.9% of GDP. In some quarters the black zero has acquired an almost fetishistic quality. Visitors to a wing of the finance ministry in the state of Hesse can marvel at "Null" (2016), an installation of interlocking black aluminium circles suspended from the ceiling.

But as Germany's infrastructure needs have grown, as its borrowing costs have plummeted (the yield on Bunds out to ten years is negative) and as the economy has slowed, mulish adherence to a balanced-budget policy has become harder to defend. "Coffers full, country broken!" lamented a recent cover of *Stern*, a weekly, above a picture of a potholed road. In wealthy states, dilapidated schools have been closed for fear of collapse. The state development bank puts Germany's municipal investment backlog at €138bn (\$152bn). A rotating cast of international institutions passes through Berlin, urging ministers to turn on the spending taps.

Since March 2018 the finance ministry has been in the hands of Olaf Scholz, a centrist Social Democrat. Yet hopes for a much more expansive fiscal policy have been dashed. The black zero was written into the coalition deal between Angela Merkel's Christian Democrats (CDU) and Mr Scholz's SPD. Big government programmes, such as a recent package to reduce Germany's carbon emissions, are designed to satisfy fiscal rules rather than the other way around.

Mr Scholz, who is running for the SPD leadership and wants to succeed Mrs Merkel as chancellor, argues that steady fiscal stewardship has left the country well placed to react to a severe downturn. (The yardstick would probably be a marked uptick in unemployment.) The response, say officials, would partly follow the tactics used in the 2008-09 crisis. Automatic stabilisers, such as unemployment benefits, would kick in. Social-security subsidies would make it easier for firms to cut workers' hours; adjusting tax rules on depreciation would aim to ginger up private investment. Finance-ministry officials say that they will dispense with the black zero if necessary. Mrs Merkel, for all her homilies about the state living within its means, is unlikely to resist. Mr Scholz draws comparisons to 2008-09, when Germany mobilised €50bn. "In a real crisis, we'll spend money like hell," says an official.

One worry is that the slump will not be bad enough to trigger meaningful action. Another, says Jens Südekum, an economics professor at Heinrich-Heine-University Düsseldorf, is that a late, hastily implemented stimulus could cut against Germany's long-term investment and restructuring needs. For example, subsidies or tax cuts could encourage car companies to keep plugging old technologies. Mr Südekum is among a growing number of economists who want Germany to exploit low borrowing costs to fund a multi-year transformative public investment plan. Yet even were the government to dispense with the black zero it would run into the "debt brake", a constitutional ban on structural deficits over 0.35% of GDP designed to tie the hands of spendthrift politicians. The finance ministry estimates this headroom would allow for only €6.5bn in fresh spending next year, barely 0.2% of GDP.

Various wheezes have been proposed to get around this, including off-balance-sheet vehicles linked to public bodies like universities or housing associations that can tap markets without violating the debt brake. A more ambitious approach, proposed by the Green Party, would ditch the black zero and complement the debt brake with an investment rule that would exploit less stringent EU regulations. The Greens think this could kick-start public investment worth €35bn a year. But it would require a tricky constitutional change.

Some Germans have tired of foreign criticism. Public investment grew by 3.8% last year, they point out (although it remains below the euro-zone average, and is too low even to maintain the capital stock). Eckhardt Rehberg, who is leading the CDU in discussions over next year's budget, says capacity constraints and red tape make it hard to spend more without accelerating costs in construction. Local governments often fail to spend allocated funds as it is. In Germany's tight labour market, companies cannot meet orders, and a chronically understaffed public-sector workforce struggles to manage them. Critics counter that a

long-term targeted investment scheme, rather than the stop-start programmes of recent years, would provide firms with the guarantees they need to expand capacity.

Such rows will not end soon. Meanwhile the outlook is uncertain. Germany's export-heavy economy remains exposed to risks like a no-deal Brexit and the uncertainty around America's trade spat with China. "German business expectations have fallen off a cliff," according to IHS Markit, a research firm. The European Commission thinks German growth will outpace only Italy's in 2020. Amid such worries, critics will continue to decry the German government's tightfistedness. The chances are that it will continue to resist. ■

An electio-shock

Pedro Sánchez again falls short of a majority in Spain's election

*But takes a first step towards a left-cum-regionalist government***Print | Europe** Nov 14th 2019

IN SEPTEMBER Pedro Sánchez, Spain's acting prime minister, said that if he agreed to a coalition between his Socialists and Podemos, a farther-left party, he "wouldn't sleep at night". Two months later, just hours after an election on November 10th in which both parties lost ground while the hard right surged, Mr Sánchez and Pablo Iglesias, Podemos's leader, signed an outline agreement to form Spain's first coalition government since the 1930s. Many details are lacking and the deal is not itself enough to guarantee a majority in Congress. But after their fourth general election in as many years, Spaniards may be spared a fifth, at least for a couple of years.

The Socialists have emerged again as the largest party, but with only 120 of the 350 seats in Congress, down three on the previous vote in April. Podemos lost seven seats (two to a splinter party). Between them, the pair mustered almost 1.4m fewer votes, partly because turnout fell by six points and partly because of continuing fragmentation, as an unprecedented 16 parties won seats in Congress.

The big change was that Vox, a hard-right Spanish nationalist party, surged into third place with 15% of the vote. Its rise came partly at the expense of Ciudadanos, a rudderless formerly centrist party, which was almost wiped out. Albert Rivera, its founding leader, resigned. The voters thus punished, to varying degrees, those they held responsible for failing to form a government after the April poll. That was when Mr Rivera deprived the country of its only realistic prospect of a strong, reformist administration by setting his face against an agreement with Mr Sánchez.

Chastened by his pyrrhic victory, Mr Sánchez chose to eat his words and accept a coalition in which Mr Iglesias would probably be a deputy prime minister and have two or three other ministries. The two have disagreed about the economy and about Catalonia, the biggest issues facing Spain. Mr Iglesias wants to squeeze the rich and repeal a labour reform which made firms more competitive. Mr Sánchez has attempted to assuage the concerns of business folk by saying he will put Nadia Calviño, his fiscally sober economy minister, in overall charge of economic matters. Podemos may kick against her.

The campaign was dominated by the conflict in Catalonia, after the Supreme Court last month imposed swingeing prison sentences on nine Catalan separatist leaders for their role in the illegal referendum and declaration of independence in October 2017. That prompted sometimes violent protests which continued this week with the blocking of motorways in Catalonia. The separatists' threat to national unity has fuelled the rise of Vox, which wants to limit Spain's sweeping regional autonomy. It also loudly complains about illegal immigrants claiming welfare benefits (though few do).

Podemos has hitherto backed the separatists' demand for a referendum on independence. The draft coalition agreement calls for the government merely to promote talks "always within the constitution", which does not recognise a right to self-determination. To scrape together the majority needed to form a government, Mr Sánchez must now rely on the support of regional parties and, probably, the abstention of some Catalan separatists. Given the climate in Catalonia, that will not be easy.

For now, the prime minister appears to have rejected a second option, to seek an agreement with the mainstream conservative People's Party, the Socialists' age-old rivals. That is not clearly on offer, but most leaders accept that the country's political deadlock needs to be broken. To resort to yet another election would be "dangerously badly received by Spanish society" and would lead to even greater fragmentation and stir up still more support for Vox, says José Luis Ayllón of Llorente y Cuenca, a political consultancy. That prospect should concentrate minds. ■

Compensation culture

Ireland's insurance premiums have rocketed

Dodgy claims are one cause

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IN JULY 2015 Maria Bailey, then a 39-year-old local councillor in Dun Laoghaire, ran a 10km race in under 54 minutes. Her creditable time, recorded on the race's website, came back to haunt her in May, when it emerged that Ms Bailey—now an MP—was seeking up to €60,000 in compensation for a fall, three weeks before the race, which she claimed had left her unable to run for three months. Enjoying a convivial night out, Ms Bailey had suffered minor injuries when she fell off an “unsupervised” swing in a trendy Dublin hotel. She withdrew her claim soon after news of it broke.

For many people, the case was a particularly galling example of Ireland's “compo culture”, an epidemic of dubious compensation claims, extravagant awards and soaring insurance premiums that is blighting small business, forcing drivers off the road and stifling public activities, including local festivals.

“Sports clubs and community groups aren't able to offer the same services they used to,” says Peter Boland, director of the Alliance for Insurance Reform, a coalition of businesses, sporting bodies and NGOs. “We have a crisis of childhood obesity, but many primary schools don't let children run in the playground any more, or play football informally, because they're afraid of injury claims. It is shrinking society.”

Insurance companies complain that Irish courts pay out much more than their Western peers for short-term, soft-tissue injuries like whiplash. A recent inquiry found that the average soft-tissue payout in Ireland was just under €20,000, four times the average in Britain. Such large quantities of cash do seem to have curative value. Last month the *Irish Times* reported that 90% of whiplash patients attending one Dublin pain clinic stopped showing up as soon as compensation was paid.

Lawyers disagree. They blame Ireland's insurance companies, which they accuse of exaggerating the problem to cover for premiums and profits that are increasing out of proportion to any rise in payouts. To reduce awards, argues Ken Murphy, director-general of the professional body for solicitors, would “merely be to take from the pockets of injured victims of negligence in order to line the pockets of an increasingly profitable insurance industry”.

This summer the government set up a judicial council that might, eventually, cap compensation for minor injuries. Little has yet been done, however, to remedy a dearth of investigations for insurance fraud. Earlier this year a parliamentary committee revealed that the insurance companies, while claiming that 20% of all claims are fraudulent, had only referred 19 cases to police in a recent six-month period.

Meanwhile, small businesses fear the worst. Gerry Frawley of the Irish Inflatable Hirers Federation frets that the last insurer willing to cover the bouncy-castle industry—a London-based underwriter—has just pulled out of Ireland. “The responsible people will go out of business in the next year,” he warns, “and the cowboys who never cared about safety or insurance or checks or registration will be renting play equipment to your children.” What some seek to gain on the swings, others will lose on the bouncy castles. ■

Old wine in new bottles

Leonardo da Vinci's personal vineyard has been re-created

*And the wine is ready to drink***Print | Europe** Nov 14th 2019

L EONARDO DA VINCI is remembered as many things—artist, inventor, scientist. “Boozer”, however, is rarely included on the archetypal polymath’s astonishing CV. That might change now that scientists have resurrected da Vinci’s own vineyard.

Da Vinci was a great lover of wine, “the divine liquor of the grape”, as he called it. So much so that Ludivoco Sforza, the Duke of Milan, offered him a vineyard as payment for “The Last Supper”, which he painted for the refectory of the Convent of Santa Maria delle Grazie in Milan in 1498. It survived for centuries after his death, until it was destroyed by a fire started by Allied bombs in 1943. With it was lost any hope of seeking inspiration from the same liquid source that once fuelled the painter of “Mona Lisa” and the inventor of the helicopter.

That is, until 2007, when Luca Maroni, an oenologist, decided to excavate the site in the hope that some vine-roots had survived the fire. He recruited Attilio Scienza, an expert on viniculture, and Serena Imazio, a geneticist, and they began to dig. Finding some roots intact, the team subjected them to extensive genetic testing at the Università degli Studi in Milan. In 2009 they identified da Vinci’s grapes as Malvasia di Candia Aromatica, a variety that is still grown in Italy today.

That discovery set off a painstaking recreation of da Vinci’s vineyard. Dr Imazio scoured Italy to find grapes similar to the DNA profile of the roots, bringing them back to Milan and copying the original layout of the vineyard as exactly as possible. Located in the gardens of the Casa degli Atellani, just two minutes’ walk from “The Last Supper”, it has been open to visitors since 2015.

The vineyard produced its first harvest in September 2018. Now, after a long wait, da Vinci’s wine is ready to drink. A first 330 bottles, based on a design found in da Vinci’s Codex Windsor, will be auctioned later this year. For those not lucky enough to grab a bottle, the vineyards of the nearby Castello di Luzzano, also thought to have been the property of the Duke of Milan, produce a wine made from the same type of grape and inspired by da Vinci. You can enjoy a glass after a pleasant stroll through his vineyard. Light and floral, you can almost taste in it a hint of Leonardo’s renaissance.

Charlemagne
Reading the cards

Our outgoing columnist spies two possible future paths for Europe

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LITTLE ABOUT Europe is simple. The EU is a sprawling, labyrinthine, many-centred thing. It tends to move either very slowly or very fast, with shifts creeping forwards over years or suddenly flashing past in hours at late-night summits. National capitals can feel like different universes, with their own electoral and economic cycles, personalities, in-jokes, taboos, histories, myths and ideological constellations. So it can be tricky to identify and explain continent-wide trends, and even more so to anticipate them. No wonder that confidently sweeping analyses of Europe often get the big calls wrong.

Early in the new millennium, the EU's eastward expansion, transatlantic rifts and a mild economic climate together produced a wave of grandiose claims about the European model's sunny future. Books with titles like "The European Dream" and "Why Europe Will Run the 21st Century" hit the shelves. A convention of grandees drew up a blueprint for the EU called a Constitution for Europe. But then the blueprint was rejected at two referendums, economic crisis set in, the euro zone started to wobble, migration soared and the union ended the decade much less struttingly than almost anyone had predicted.

Primary-coloured prognostications about the current decade have proven even more wrong. The peak of the euro crisis around 2012 saw a surge of premature obituaries for the European project, which were reprinted when migration crises, terror attacks and Britain's vote to leave struck over the following years. The EU was said to be paralysed by its divisions and doomed to extremism, destitution and collapse. Yet today, in the twilight of the decade, the picture is cheerier. Economies have recovered, support for the union is at record levels and the last European elections saw turnout rise for the first time in decades. Chilly international winds may even be toughening it up. The EU leads the world in trade liberalisation and technology regulation and its incoming executive calls itself the first "geopolitical" commission. In Emmanuel Macron it has a far-sighted statesman—even if his bold urgings to other leaders are as much exasperated as hopeful.

And what of the next decade? It is highly unlikely that the EU will end the 2020s either as the smouldering wreck of Brexiteer reveries or as the muscular mega-power of Macroniste dreams. As your columnist hands on Charlemagne's crown, he can more easily imagine two distinct but more nuanced possibilities.

In the first, mildly positive, one the EU muddles its way towards a multi-tier structure in which overlapping and concentric circles of states can better co-operate. Different "coalitions of the willing" within the EU emerge to do different things. A group centred on France and Germany creates a common asylum system, the Nordics and the Baltics build a deep digital-services union, and militarily adventurous states like France and Italy complement NATO with mid-sized interventions close to Europe. An accommodation combining the reduction and pooling of risk in the euro zone paves the way for modest resilience-boosting progress on banking union and closer fiscal co-ordination. Populists remain disruptive, but the centre holds. Europe enters the 2030s as a more hard-nosed figure, with a patchwork of shared interests. Though not comparable in military or technological power to America or China, it is a relevant broker between them.

In the second, more negative, scenario the EU's relative decline is sharper. An economic slowdown in the early 2020s causes more near-death experiences for the euro, hardens the mood against further integration and increases economic divergence. A split between a "northern" and a "southern" euro is seriously discussed. Anaemic growth also sidelines long-term geopolitical and industrial considerations at the expense of short-term fixes and narrow national advantage-seeking. The grind of outside challenges, from technological disruption and migration to terrorism and meddling foreign powers, turns states inward and against each other. As the bloc fails to deal with its problems, public support for the EU drops, although no state actually follows Britain out of the club. Populists paralyse fragmented legislatures, blur into the mainstream and shape a more nationalist, less co-operative agenda. The EU enters the 2030s in one piece, but divided and less relevant, its high relative living standards fraying as Europe falls behind economic rivals and its population ages and shrinks.

Shades of grey

The difference between these two outcomes, and the spectrum of sub-scenarios between them, is measured in the answers to several big questions. Will European leaders find the capacity and political capital to focus on improving their project, even outside moments of high drama? Will they use crises (and there will inevitably be crises) to shove it forward? Will ordinary voters elect politicians who promise only to ease the process of decline, or ones offering vigorous reforms that boost growth? Will the continent become more realistic about the difficult choices it faces over the course of the 21st century, and therefore strive towards the first, imperfect but happier, of the scenarios? The default and probably more likely outcome is the second and unhappier of the two. Mr Macron's recent doom-laden warnings to this newspaper about Europe's need to wake up may have raised eyebrows, but it is much less clear that they will have the desired result.

Europe's muddled complexity is matched by its simple virtues. It remains, thanks in no small part to the EU, the largest cluster of people living in freedom, prosperity and peace on the planet. It is capable of renewal and of verve—and often of combining these things with enlightened approaches to work, health, society, civic rights and the environment. It has much

to teach and to otherwise contribute to the rest of the world. None of those things will change overnight if its relative decline proves steeper than necessary. But they will make it that much more of a tragedy. ■

The National Health Service

Spin doctors

Spin doctors**The Tories want to be the party of the NHS. Will voters buy it?***A winter election and rumours of a sell-out to America threaten the Conservatives' plan***Print | Britain** Nov 14th 2019

THE SUMMER after he ran the Brexit campaign, and two years before he was appointed the prime minister's chief adviser, Dominic Cummings gave a talk to Nudgestock, a "festival of behavioural science". At the event, put on by Ogilvy, an advertising agency, his analysis of the "core problems of the Tory party brand" was typically blunt. Almost all British people love the NHS. But most Tory MPs don't care about it, he said—"and the public kind of has cottoned on to that."

Under Mr Cummings's guidance, Boris Johnson has deployed a combination of money and warm words to show he does care. Last year Theresa May, his predecessor in Downing Street, announced an extra £20bn (\$26bn) a year by 2023 for the health service. Since taking charge Mr Johnson has promised £2.7bn more to build six hospitals, £2.4bn to boost primary care, and £1.8bn to refurbish facilities and buy new equipment. These announcements have been enthusiastically promoted. Ninety-six of Mr Johnson's 659 tweets as prime minister have mentioned the NHS, and he has visited at least half a dozen hospitals.

A few recent polls show that the Conservatives are now more trusted than Labour on health, the issue voters consider the most or second-most important, depending on the pollster. Richard Sloggett, a former adviser to Matt Hancock, the health secretary, says the Tories will try to cement their lead by emphasising precisely how the new money will improve each voter's local hospital, be that with a new ward or the latest cancer-screening technology. Labour has long regarded health as home turf, meaning this will be an unusual election: both parties believe they can win by talking about the NHS.

One place where the battle will be fought is Watford, a Tory-Labour marginal on the northern outskirts of London, and one of the beneficiaries of Mr Johnson's largesse. The town's general hospital, a dilapidated 521-bed establishment next to Vicarage Road football stadium, is expected to get the lion's share of a £400m loan to the trust that runs it. When Mr Johnson visited in October he promised a transformation. "The old Victorian building will go, the Portakabins will go," he said. "There will be world-class facilities and world-class staff." Dean Russell, the local Tory candidate, says the NHS will be at the centre of his campaign.

Labour politicians dismiss the Conservatives' claims to be the party of the NHS. Even Sir John Major, a former Tory prime minister, has warned that under Mr Johnson and his fellow Brexiteers the health service would be as safe "as a pet hamster would be with a hungry python". On November 13th Labour announced an "NHS rescue plan", including a 3.9% annual increase in day-to-day funding (compared with 3.4% growth under the Tories' plans) and a big rise in capital funding. It has also pledged to undo Tory reforms designed to encourage the internal market, and to end privatisation by bringing contracts in-house when they expire, without yet explaining exactly how this would work.

The party is on firmer ground when criticising the government. Mr Johnson's promises of new cash have come too late, says Chris Ostrowski, Labour's candidate in Watford, who points out that plans for the redevelopment of the hospital have been around for at least a decade. "From consultants to porters, the thing you often hear is, 'It's never been as bad as this,'" he says. National performance measures back up such reports. Data released on November 14th showed that in October 16% of people visiting accident and emergency departments waited longer than four hours to be seen, more than any month on record (see chart).

As temperatures drop, the question is how far performance will slip. The British Medical Association, the doctors' trade union, has warned that the health service is facing its worst-ever winter crisis. Elections are usually held in spring, when the NHS is emerging from its most difficult period. The last one to be held when the health service was on the ropes was in 1987, when its finances were in a bad way, notes Nicholas Timmins, a historian of the welfare state. The difference is that there are now much more data available, making it easier to track how the system is doing.

Winter is coming

Underlying the poor performance is a basic imbalance between demand for services and staffing levels, says Richard Murray, chief executive of the King's Fund, a think-tank. Staff shortages have been exacerbated by pension rules that deter some clinicians from taking on extra work. The Conservatives' promise to end free movement from the European Union would cut off another source of workers, though they have promised an "NHS visa" to keep the doctors coming. Labour's plan to phase in a four-day week could cause an even bigger pinch.

No amount of emergency meetings between Downing Street and NHS England is likely to improve things much before the election, which could cause problems for the government. As a former Labour adviser observes: "There is no way to spin old

people dying on trolleys in waiting rooms.”

More optimistic Tories point out that the now-standard winter crisis usually becomes apparent at the start of the year. But even if the Conservatives manage to escape blame for the state of the health service, they are likely to take flak on another front. As Mr Cummings discovered during the Brexit campaign, with his promise to give the NHS the £350m a week that would supposedly be recouped from Brussels, linking Brexit to the health service makes for a potent political combination. The Tories’ ambition to do a trade deal with America offers Labour just such an opportunity. Asked about what role the NHS might play in trade negotiations on a visit to London in June, President Donald Trump replied ominously that “everything is on the table”.

Quite what that means is unclear. Second term or not, Mr Trump will probably be out of office by the time any deal is concluded, and he has since rowed back from his remarks. American companies can already tender for NHS contracts, so long as they have a presence in the EU. Possible demands from America could include making it harder to return such contracts to the public sector, or loosening regulations on drug purchasing, to allow pharmaceutical firms to make greater profits. Perhaps more important than the details, at least as far as the election is concerned, is the idea that under the Tories the NHS would be “up for sale”, as Jeremy Corbyn, Labour’s leader, puts it.

In reality, any British government would probably resist being forced into making drastic changes to the cherished health service. Senior Conservatives, including Mr Johnson and Mr Hancock, loudly insist that the NHS will not be involved in any trade deal. The trouble, as one Tory MP notes, “is that the more airtime [a potential trade deal] gets, the more it becomes a factor in the electorate’s mind.” Which is why Conservative candidates will do everything they can to talk about the new hospital wards they are building instead. ■

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Swing seats

Labour is going backwards in Reading West, a target seat

The party came within six points of the Conservatives in 2017. Our poll finds the Tories' lead has quadrupled

Print | Britain Nov 14th 2019

ALOK SHARMA could be forgiven for being nervous. The Conservative cabinet minister sits on a small majority of 2,876 in Reading West, one of two constituencies in a town just west of London. A demographic tailwind blows in Labour's favour, with young families moving from the capital to the town, which has a swish new railway station at its heart. Labour controls the borough council and snatched neighbouring Reading East in 2017.

Yet Mr Sharma has little cause to worry. Just over 50% of voters says they will back him in the coming election, according to a poll by Survation for *The Economist*. Support for Labour, meanwhile, has slumped to 26%. A bridgeable six-point lead enjoyed by Mr Sharma in 2017 has turned into a 24-point chasm (see chart). Constituency polling has a large margin of error. But it seems that the Labour-voting coalition that almost made Mr Sharma a casualty of the last election has collapsed.

With its mix of countryside, council estates and commuters, Reading West is a slice of England. Since its creation in 1983, the constituency has always been held by the governing party. It broke 52% to 48% for Leave in the Brexit referendum, like the rest of the country. Mr Sharma's vote share increased in 2017 (from 48% to 49%) but his majority fell, in a pattern repeated across the country as Labour surged.

Both Labour and the Conservatives did exceptionally well in terms of vote share in 2017. But in seats like Reading West, the 2017 result is a floor for the Tory vote. For Labour, it risks being a ceiling. The party maxed out its vote in places like Reading West, says James Johnson of JL Partners, a pollster. Smaller parties like the Liberal Democrats were squeezed to the point of collapse. "There is only room for those other parties to grow," says Mr Johnson.

While the Lib Dems chomp away at Labour's vote share, the Brexit Party has stood down in the constituency (after our poll was taken). That should make life easier still for Mr Sharma, as most Brexit Party backers are expected to switch to the Tories. Labour hopes that in time the Lib Dem vote will be eroded, as Remainers realise that, under first-past-the-post, only Labour can beat the Conservatives in seats like Reading West. Labour's leaflets remind wavering voters that it came within 3,000 votes of displacing the Tories last time, whereas the Lib Dems were 22,000 behind.

Labour activists now pray for a repeat of the party's late surge in 2017, hoping that when the party's manifesto is published more voters will return to the flock. At least opinion of Mr Corbyn cannot get much worse: about 47% in Reading West think Boris Johnson would make the best prime minister, whereas only 13% opt for Mr Corbyn. Labour may benefit from having a local candidate, Rachel Eden, a long-serving councillor. ("I remember when this was fields," she says of the newish flats surrounding a café in the south of the town. "Well, I say 'fields'—the remains of a sewage works.")

Labour has cause for longer-term optimism about towns like Reading, even if the prospects this time look grim. Demographic change could help it in future, argues Rob Wilson, a former Conservative MP who represented the eastern half of the town in 2005-17. Reading has become more ethnically diverse, while young middle-class professionals (who these days tend to vote Labour) have moved in. Londoners account for 16% of home sales in Reading in the past year, according to Hamptons International, an estate agent. Similar trends across the south-east helped Labour gain seats in places like Brighton in 2017, as well as biting into the "doughnut" of outer-London constituencies that used to vote Tory.

This time, however, with the Lib Dems polling in the teens—rather than on life-support as they were in 2017—these seats may prove trickier for Labour. And the Conservatives are unlikely to make the same mistakes as in 2017, such as putting out a manifesto with few goodies for voters. In places such as Reading West, Labour climbed a mountain at the last election. But in the past two years, they seem to have slipped back down it. ■

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Tactical voting**Nigel Farage's Christmas present to Boris Johnson***The Brexit Party boosts the Tories, while opposition parties keep fighting***Print | Britain** Nov 16th 2019

IT MAY HAVE been the most significant moment of the election campaign. On November 11th Nigel Farage, leader of the Brexit Party, who had talked of fighting 600 seats, said he would not field candidates in the 317 won by the Tories in 2017. He had sought a pact with Boris Johnson, but after being rejected he offered a “unilateral” alliance. His barely credible explanation was that, having denounced Mr Johnson's Brexit as little better than Remain, he had seen a video in which the prime minister promised a Canada-style free-trade deal and no extension of the transition period beyond December 2020.

The truth is that Mr Farage was under immense pressure from his financial and political backers not to jeopardise the election by splitting the pro-Brexit vote, thereby risking losing Brexit altogether. Yet almost as important as his decision not to fight Tory incumbents was his insistence that he would still run candidates in other seats. Brexiteers demanded that he go further by standing down in Leave-voting Labour marginals which the Tories need to win. But as we went to press Mr Farage was stubbornly refusing to give way.

Even so, his decision not to fight the Tories directly is a boost for Mr Johnson. According to Matthew Goodwin of the University of Kent, two-thirds of the most marginal Tory seats voted Leave in 2016. A significant Brexit Party vote might have tipped several the opposition's way. And the indirect effect of Mr Farage's announcement may count even more. Chris Hanretty of Royal Holloway, University of London, says the psychological impact on hardline Brexiteers of Mr Farage actively supporting Mr Johnson's Brexit deal will be profound, encouraging more to vote Tory.

Yet the Brexit Party could still dent Mr Johnson's chances of winning Leave-backing Labour marginals. Mr Farage claims that in these seats the party will mostly win over Labour supporters who are unhappy with Jeremy Corbyn's leadership. But most pollsters reckon it draws at least twice as many votes from the Tories as from Labour.

Being associated with Mr Farage could cost Mr Johnson some support in pro-Remain areas. As many as 5m Tory voters in 2017 backed Remain in the 2016 referendum. Many will no doubt vote Conservative again, but a few may be put off by Mr Farage's support of the prime minister's hard Brexit. Labour is trying to win over even more by linking Mr Johnson and Mr Farage to their mutual American friend, Donald Trump. The president has long called for a pact between the two men.

If the two most pro-Brexit parties can enter a form of electoral alliance, why can't the anti-Brexit parties? Three of them—the Liberal Democrats, Greens and Plaid Cymru—have formed a “Unite to Remain” alliance, in which they agree not to run against each other in 60 seats. The Lib Dems have also decided not to oppose Dominic Grieve, a renegade ex-Tory running as an independent in Beaconsfield. The Greens have pulled out of Chingford, to increase Labour's chances of unseating Iain Duncan Smith, a hardline Tory Brexiteer.

What would make a real difference is a pact between the Lib Dems and Labour. Yet the parties' tribal instincts and ingrained hostility stand in the way. Heidi Allen, a former Tory MP turned Lib Dem, says her party approached Labour several times but was rebuffed. Labour insists on running candidates everywhere. The party leadership damns the Lib Dems for joining David Cameron's (pro-austerity) coalition in 2010. Jo Swinson, the Lib Dem leader, is a fierce critic of Mr Corbyn. This week her party insisted on fielding new candidates in Canterbury and High Peak, upsetting the two existing ones who had both stood down to give Labour a clear run and are now advocating a Labour vote.

In theory the electorate could do the job by voting tactically for whoever is most likely to defeat the Conservatives. Several websites now offer advice on this, though they do not always agree. But although tactical voting has increased since the 1990s, it is unlikely to be extensive enough to change the result. Mr Goodwin draws an analogy with the 1983 election, which Margaret Thatcher won by a landslide despite losing vote share. The main reason was a divided opposition. ■

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Britain's new political generation
Meet Parliament's class of 2019

More diverse, more Brexit, more Corbynite

Print | Britain Nov 14th 2019

SAM TARRY is pounding the streets of Ilford South with an army of Labour activists. The party's nomination for the safe London seat became free earlier this year after the sitting MP, Mike Gapes, defected to another party in despair at Jeremy Corbyn's leadership. Mr Tarry, a trade unionist, got his first taste of politics campaigning outside his predecessor's office against the Iraq war. Mr Gapes "is a warmonger—people in Ilford still haven't forgiven him for that," he claims. Labour's new candidates are quite different from those they are replacing, says Mr Tarry: "We aren't afraid to say we are socialists."

Thirty-eight Labour MPs and 52 Conservatives have stood down or switched party ahead of the election, three times as many as in 2017 (though fewer than in some previous years). Most departing Labour MPs were at best lukewarm towards Mr Corbyn. By contrast, the class of 2019 is closely aligned with the party's left-wing leader, according to our analysis (see chart).

The Tories are undergoing a similar makeover. Only four of the departing Tory MPs backed Leave in the referendum of 2016. The new generation seems to be much more Brexit—though we found that some Tories were oddly shy about how they voted three years ago. "I'm not telling you which side I backed in 2016," says Colonel James Sunderland, who is standing in Bracknell. "The class of 2019 are new blood. We are going to draw a line under the last toxic parliament. We must not think in terms of being Remainers and Leavers."

Mr Tarry is representative of the kind of politician who will be arriving on the Labour benches. Gone are the management consultants and solicitors, with 45% of the party's new candidates in these vacated seats coming from trade-union backgrounds. In Birkenhead the regional secretary of the Unite union, Mick Whitley, is replacing Frank Field, who is running as an independent. "Frank walked away from the party," says Mr Whitley. "I'm totally opposed to his politics. We need radical solutions for Birkenhead."

Both parties have put forward more women, who made up 25 of those stepping down but who number 44 of the candidates running in their place. British Future, a think-tank, finds that if all parties win the same seats as in 2017, there will be 67 ethnic-minority MPs, up from 52 now.

Unlike Labour, and in spite of their pursuit of blue-collar voters, the Tories have picked most of their candidates from professional backgrounds. Westminster insiders—including five former MPs—make up nearly a third of candidates in vacated seats. "People say, 'Oh, what a posh twat'," admits Anthony Mangnall, a former special adviser who is standing in Totnes. "But I'm in debt...Right now, I'm sat in my car overlooking Royal Naval College Dartmouth, and it's pissing with rain, and I love it—whether or not it's glamorous." ■

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Speakers' Corner

The best quotes from the third week of Britain's election campaign

Key lines from the campaign trail

Print | Britain Nov 16th 2019

Farage against the machine

"It's pointless. It doesn't get us out of anything. It doesn't work at any level. It is a gigantic con. We should not sell out to this, it's a Remainer's Brexit. It's virtually worse than staying where we are."

Nigel Farage, Brexit Party leader, slams Boris Johnson's Brexit deal on November 3rd. BBC

Farage in favour of the machine

"I thought to myself overnight, well, that actually sounds a bit more like the Brexit that we voted for. Trade, co-operation, reciprocity with our European neighbours is what we all want...If the prime minister is saying he will make sure we are not part of political alignment, that I think is a significant step."

A week later, Mr Farage explains why he will not run Brexit Party candidates against Tory incumbents after all

Democratic outrage

"I'm dumbfounded that this government won't release the report about Russian influence, because every person who votes in this country deserves to see that report before your election happens."

Hillary Clinton criticises the government's refusal to publish an intelligence report on Russian meddling in elections. BBC

Boris backs free movement

"Northern Ireland has got a great deal. You keep free movement. You keep access to the single market."

Mr Johnson defends his deal in Northern Ireland, inadvertently talking up the benefits of EU membership. Manufacturing NI

Pitch invasion

"The UK election takes place in one month. Can things still be turned around?...The only words that come to my mind today are simply, 'Don't give up.' In this match we had added time. Now we are in extra time. Perhaps it will even go to penalties."

Donald Tusk, president of the European Council and football fan, provides some commentary on the contest

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Hey big spenders

Labour and the Tories plan to borrow billions. But can they spend it?

The construction industry, short of workers and materials, may be unable to carry out their big plans

Print | Britain Nov 16th 2019

FOR THE past eight years the bankers, lawyers and asset managers arriving early each morning at Moorgate station have been faced with building works. Much of the area has been cordoned off as the station expands as part of Crossrail, an £18bn (\$23bn) east-west transport link across London. Crossrail was supposed to be ready for the Olympic games in 2012. But this week the timetable slipped once again; the line is now due to open “as soon as practically possible in 2021”.

With British infrastructure in a rosy state, both main parties are promising big increases in capital spending, funded by large increases in borrowing. The people working around Moorgate will determine whether these programmes succeed. Yet the ones to watch are not the pinstriped bankers, but the builders in hi-vis jackets.

Big spending is back in fashion. Under the Conservatives’ new fiscal rules, public-sector investment would rise from its current level of around 2% of GDP to 3%. Labour would go further, more than doubling investment, to over 4%. Both parties would take government investment to the levels that last prevailed in the late 1970s, spending about three times more on capital projects than was the norm under the governments of Margaret Thatcher and John Major in the 1980s and 1990s.

With interest rates near historical lows, raising the money is unlikely to be a problem. Economists have been arguing for years that the government should take advantage of negative real interest rates to upgrade the country’s infrastructure. But this may prove to be easier in theory than practice: actually spending the money could turn out to be surprisingly tricky.

Governments have long struggled to fulfil their capital-spending plans. The Institute for Fiscal Studies, a think-tank, found that the government of the day undershot its capital-spending target almost every year between 1992 and 2015. So endemic is the problem that when the Office for Budget Responsibility, an official watchdog, makes its economic forecasts it assumes the government will fail to meet its investment plans.

This time there are plenty of reasons to expect a big undershoot. Noble Francis of the Construction Products Association, a trade body, says that “in construction you can spend a little money very quickly, but spending a lot of money is much harder.” Small projects, like getting local councils to fill in more potholes, are easy. But the big programmes that let ministers dress up in a hard hat to announce are not. Schemes like the new railways in the north of England planned by the Tories, or the large-scale homebuilding and investment in green energy promised by Labour, cannot be switched on at will by the chancellor.

Hey big spenders

The construction industry is already suffering from the fallout of the Brexit vote. Uncertainty has delayed investment. Weaker sterling has increased the cost of imports; building-material prices have risen by 3% in the past year, twice the rate of inflation. And many migrant workers have left. More than half of Britain’s big contractors report problems hiring tradespeople such as bricklayers and carpenters. Wage growth in building is running at 6% a year, compared with 3.6% in the economy as a whole. The construction workforce, meanwhile, is ageing rapidly. About 500,000 of the industry’s 2.4m workers are due to retire in the next 15 years. Although many construction trades can be learned in under a year, productivity levels of newer workers tend to be lower.

The splurges that both the Tories and Labour are proposing would require high levels of investment by the industry and a change of approach by the government. Firms will be reluctant to train new workers without some certainty about the future pipeline of work from the government. The National Infrastructure Plan, which includes £500bn-worth of projects, is dismissed by construction bosses as a wishlist, not a plan.

According to Judy Stephenson of University College London, the industry sees the government as having a “stop-start, ad hoc approach” to infrastructure planning, which makes long-term commitments difficult. She argues that the recent pausing of work on HS2, a high-speed railway between London and the north, to review the business case for the programme, has caused resentment among contractors. With the government seen as an unreliable partner, builders will want to get a risk premium written into their contracts, in case ministers have a change of heart.

Neither party’s investment plan is wildly out of line with international standards. Spending 3% of GDP on public-sector investment, as the Conservatives propose, would bring Britain up to the average across the OECD, a club of mainly rich countries. Even the 4% or so argued for by Labour would be comparable to some other European countries. The problems will emerge if either party tries to hit its ambitious new target too quickly. Pumping billions of pounds into an industry already short of capacity and experiencing rising costs is more likely to increase inflation than national productivity. ■

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Giving it some welly

Floods hit marginal constituencies in England

Some residents blame the government for failing to plan

Print | Britain Nov 16th 2019

“**Y**OU TOOK YOUR TIME, BORIS!” The prime minister got a mixed welcome when he visited flooding victims in Yorkshire and the East Midlands. More than 800 homes have been inundated, according to the Environment Agency. One village, the unfortunately named Fishlake, was evacuated. There was another reason for Mr Johnson’s visit: the Tories are hoping to win a swathe of seats from Labour in the affected region. The floods, for which some blame poor planning by the government, will make this task no easier. ■

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Bagehot

The Party of Davos is the biggest loser in Britain's election

The country's most powerful political alliance is heading for a deserved tumble

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THIS ELECTION is the most unpredictable in years. Tribal loyalties are weakening. Party chiefs are campaigning all over the map—Conservatives in Labour heartlands in the north and Labourites in Tory bastions in the south. The Liberal Democrats are a wild card. But one thing is certain in all this confusion. Whoever wins the election, the Party of Davos will lose. This is nothing less than a revolution in British politics.

The Party of Davos refers to the 3,000 or so people who attend the World Economic Forum in Switzerland each year, and their more numerous ideological bag-carriers. (This columnist admits to attending the forum on several occasions and to carrying a good deal of ideological baggage.) Davosites are defined by their adamant belief in economic and social liberalism and their position at the top of various global organisations. They support globalisation and multilateral institutions and disdain parochialism and nationalism. They idealise business and loathe nimbyism and restraints on trade. Michael Oakeshott, a philosopher, said that political rationalists place no value on the tried-and-true, and believe that “nothing is to be left standing for want of scrutiny”. Davosites are rationalists par excellence.

The Party of Davos achieved its greatest success in Britain from 1997 to 2016. Tony Blair and David Cameron may have worn different-coloured rosettes, but they were both paid-up members of the party. Ditto their various comrades-in-arms, such as George Osborne on the right, Peter Mandelson on the left and Nick Clegg in the middle. Under Mr Blair the Labour Party made its peace with Margaret Thatcher's pro-business philosophy by fawning over businesspeople. Under Mr Cameron the Conservatives made their peace with social liberalism by supporting gay marriage.

The great purge of the Davosites started on the left, with Jeremy Corbyn's election to the leadership of the Labour Party in 2015. Out went the likes of Mr Mandelson (who had once declared that “we are intensely relaxed about people becoming filthy rich”). In came hard-leftists who had learned their craft on picket lines rather than ski slopes. Mr Corbyn even advocated putting one of Davos's heroes, Mr Blair, on trial for war crimes. The purge spread to the Conservative Party this year with the election of Boris Johnson as leader, who expelled 21 senior Tories for disloyalty over Europe. Davosites such as Rupert Harrison, a protégé of Mr Osborne, have been weeded from the Conservative candidates list.

The Davosites have made several ill-starred attempts to regroup. They briefly supported the idea of a “government of national unity”, only to see the idea fizzle. They invested high hopes in a second referendum, but the “people's vote” movement collapsed in turmoil when Roland Rudd, the PR entrepreneur who helps to fund it, tried to sack two of its leaders and staff responded by walking out. Exasperated Davosites are now backing the Lib Dems, but so far the polls are moving against them.

There is no doubt that the Davosites deserve much of what has been hurled at them. They overpromised and underdelivered. Gordon Brown boasted that Britain had abolished the cycle of boom-and-bust under his leadership, only to see the global economy plunged into the worst financial crisis since the 1930s. Mr Blair championed the war in Iraq on the grounds that Saddam Hussein possessed weapons of mass destruction, and that toppling a dictator might bring democracy to the Middle East. They engaged in a pattern of self-dealing that destroyed the bond of trust between the political elites and the masses. Since the financial crisis the likes of Messrs Blair and Osborne have grown “stinking rich” by selling their advice to global companies, while ordinary British workers have seen their wages stagnate. And they failed to learn the lessons of history. Too many Davosites think they need only make corporations a bit more woke and all will be forgiven.

But even when all that is conceded, British politics is paying a heavy price for the collapse of the Party of Davos. The average IQ of the political class is deteriorating. When Mr Clegg lost his seat in Sheffield Hallam in 2015, he was replaced by Jared O'Mara, a local bar owner who once called for Jamie Cullum, a jazz musician, to be “sodomised with his own piano”. The quality of governance is collapsing. Brexit has distracted attention from urgent problems such as the obesity epidemic and the dismal state of vocational education. The Davosites may have made a bad job of running the country, but the populists on both the left and the right look as if they are going to make an even worse one.

The long climb back

The Party of Davos needs to apply Oakeshott's principle of scrutiny to itself if it is to have any chance of regaining its place at the summit of British politics. The Davosites must learn to see themselves as others see them. Appearing on the slopes to make the case for a second referendum, as Mr Rudd once did, or tweeting that Aspen is a great place to hold a discussion on refugees, like David Miliband, a Blairite ex-minister, guarantees political oblivion. They need to recognise that they are the beneficiaries of all sorts of hidden privileges. Davosites have relentlessly championed creative destruction without recognising that the costs of such policies fall disproportionately on people other than themselves. They need to see that they are on a hiding to nothing if they think they can win popular support by advocating a pure diet of economic and social liberalism. If anything, majorities want the opposite.

This will require a lot of rethinking of lazy verities. Davosites need to think much harder about the importance of things like belonging, dignity and nationalism. It will also require a lot of self-policing. Davosites need to be as hard on self-dealing on their own side, particularly among company bosses who pay themselves ever more for mediocre performance, as they are on that of others. Unless the Party of Davos can reform itself, it will remain on the periphery of British politics—and rightly so.



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Protest movements

We all want to change the world

We all want to change the world

Economics, demography and social media only partly explain the protests roiling so many countries today

Single theories struggle to explain the demonstrations around the world

Print | International Nov 14th 2019

IT IS HARD to keep up with the protest movements under way around the world. Large anti-government demonstrations, some peaceful, some not, have in recent weeks clogged roads on every continent: Algeria, Bolivia, Britain, Catalonia, Chile, Ecuador, France, Guinea, Haiti, Honduras, Hong Kong, Iraq, Kazakhstan, Lebanon, Pakistan and beyond.

Not since a wave of “people power” movements swept Asian and east European countries in the late 1980s and early 1990s has the world experienced such a simultaneous outpouring of popular anger. Before that, only the global unrest of the late 1960s was similar in scope.

Those earlier waves of protest were not nearly as coherent and connected as they are sometimes portrayed. The unrest of the late 1960s ranged from intraparty power struggles in China to the civil-rights movement to protests against the Vietnam war and Soviet domination of eastern Europe. And the people-power revolutions of 20 years later—in countries as contrasting as Burma and Czechoslovakia were as marked by their differences as their similarities.

Even so, today’s movements seem strikingly unconnected and spontaneous. Some themes crop up repeatedly—such as economic discontent, corruption and alleged electoral fraud—but this seems more like coincidence than coherence. The initial causes of the protests could hardly be more varied: in Lebanon, a tax on phone calls via services such as WhatsApp; in Hong Kong, proposed laws allowing the extradition of criminal suspects to China; in Britain, a government bent on Brexit.

Anxious to impose a pattern on these seemingly random events, analysts have come up with three categories of explanation. These are economic, demographic and conspiratorial.

Economic explanations make much of the way in which seemingly minor knocks to living standards (a 4% rise in metro fares in Chile, for example) proved the final straw for people struggling to get by in increasingly unequal societies. For the left, this is just the latest paroxysm of a dysfunctional and doomed capitalism. As an Australian socialist journal puts it: “For more than four decades, country after country has been ravaged by neoliberal policies designed to make the mass of workers and the poor pay for what is a growing crisis in the system.” Even fans of free markets see growing inequality as a cause of concerted anger—with Chile, one of the world’s most unequal better-off countries, often cited as an example.

The demographic explanation notes that the young are most likely to protest, and the world is still fairly youthful, with a median age of 30 and a third of people aged under 20. Niall Ferguson, a historian, has drawn parallels with the 1960s when, as now, there was an “excess of educated young people” because of a boom in tertiary education, producing more graduates than there were jobs for them.

As for conspiracies, governments like to hint that sinister outside forces are stirring things up. The Chinese foreign ministry has suggested that the protests in Hong Kong were “somehow the work of the US”. In Latin America it is whispered that socialist regimes in Cuba and Venezuela have fomented unrest elsewhere to distract attention from their own troubles.

Economic and demographic factors and even outside meddling have sparked some protests. But none of these theories is universally helpful. The world economy faces nothing like the troubles of a decade ago—when fewer people took to the streets. And, to return to the example of Chile, Tyler Cowen, an economist at George Mason University, has pointed out that income inequality there has actually been narrowing. Nor is a youth bulge a satisfactory explanation. Many of the marchers (in Britain and Hong Kong, for example) are greying. As for the foreign meddling, nobody seriously blames a global mastermind for the unrest.

Three other factors fill some of the gaps left by these explanations. One, little mentioned, is that, for all its dangers, protest can be more exciting than the drudgery of daily life—and when everybody else is doing it, solidarity becomes the fashion. Another is that ubiquitous smartphones make it easier to organise and sustain protests. Encrypted messaging apps enable protesters to stay one roadblock ahead of the authorities. As soon as a specially written “anthem” for Hong Kong’s demonstrators went online, shopping malls were brought to a halt by apparently unplanned mass renditions.

The third factor is the obvious reason for demonstrating, that conventional political channels seem barren. In the late 1980s protesters’ usual targets were autocratic governments that allowed at best sham elections. Without a free vote, the street was the only way to exercise “people power”. Some of this year’s protests—against Abdelaziz Bouteflika in Algeria and Omar al-Bashir in Sudan, for example—are similar. But apparently well-functioning democracies have also been affected.

For a number of reasons, people may feel unusually powerless these days, believing that their votes do not matter. One is an increasing focus on climate change. The Extinction Rebellion movement of disruptive civil-disobedience campaigns has struck a nerve in countries from Britain to Australia. Carbon emissions demand international solutions beyond the reach of one government, let alone one vote.

Moreover, social media, besides facilitating protests, may be fuelling political frustration. Its use tends to create echo chambers and thus heighten the feeling that the powers-that-be “never listen”. A perhaps related phenomenon is the weakening of the bargain at the heart of Western-style democracy—that losers, who may represent a majority of the popular vote, will accept rule by the winners until the next election. The millions on the streets do not accept the patience that trade-off demands.

None of these trends is likely to reverse itself soon. So unless demonstrators give up in frustration, this wave of protest may be less the harbinger of a global revolution than the new status quo. ■

A crying shame

Banned in warfare, tear-gas is the default response to controlling protests

Its use may help reduce casualties, but that does not make it safe

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AS THE PROTESTS in Hong Kong drag on, rituals are coalescing. One oft-repeated rite might be dubbed “the unfurling of the banner”. As confrontation looms, from the masked ranks of police two step forward bearing a sign reading “Warning: Tear Smoke”, in Chinese and English. Then the firing starts, and clouds swirl, stinging and choking. Aside from a few wearing masks, the crowd scatters, with the police in pursuit.

Many demonstrators have experienced something like it. Indeed, Hong Kong is a relatively modest user. In the first five months of protests, its police fired nearly 6,000 rounds of tear-gas—far fewer than were used in Paris in a single day last December against *gilets jaunes* (yellow-jacket) protesters.

The term “tear-gas” covers a range of chemicals, of which the most widely used include o-chlorobenzylidene malononitrile (CS), oleoresin capsicum (OC, or pepper spray) and 1-chloroacetophenone (CN). The gases are in fact powders. New variants are designed to disperse slowly.

Defenders claim that it saves lives. Tired, twitchy, scared cops armed with tear-gas will kill fewer people than those carrying only lethal weapons. After months of growing violence, only on November 8th did the protests in Hong Kong lead to a death. Alex Chow, a student, perished after falling from a ledge in a car park while fleeing tear-gas. By contrast, in Iraq more than 300 people have died since October, largely because the authorities are more willing to use live ammunition.

Even so, tear-gas is controversial. Anna Feigenbaum of the University of Bournemouth, author of a history of the stuff, argues that it is “bad for democracy”. She says it “allows the threshold of acceptable violence to be lowered and so avoids a deliberative process.”

Bizarrely, chemicals that are so often used on civilians are banned for military use. Tear-gas was first used in battle during the first world war. The use of such gases in that conflict led to their outlawing under the Geneva Protocol of 1925. Armies skirted the ban at times—America used CS gas in Vietnam. But the ban on military use was also part of the Chemical Weapons Convention of 1993.

After the first world war, tear-gas became a popular “riot-control agent” in America and the British empire. Hong Kong police are following procedures devised by British colonial administrators. The War Office required a “declared intention to use tear-gas and adequate warnings” be given to opponents. The obfuscatory term “smoke” was promoted. In the words of Henry Duffield Craik, a governor of Punjab under the British Raj from 1938 to 1941, “Gas is a much more alarming term, as it suggests something resembling the poison gas used by the Germans in the last war.”

The short-term effects of tear-gas are unpleasant, but diminish quickly. Little is known about the long-term impact (clinical trials are impossible). But the dangers come more from its misuse than from the gas itself. Brian Castner, a weapons investigator for Amnesty International, a human-rights watchdog, says certain conditions must be met: that there is a way for a crowd to disperse; that the area is well ventilated; and that the gas is fired into the ground in front of protesters, not in the air or at their heads—especially when the canisters are large and may be lethal, as in Iraq.

Even if these guidelines are followed, and they often are not, tear-gas is indiscriminate. In Hong Kong it is estimated that 88% of the population have been exposed to gas in recent weeks. Many of them presumably have asthma, lung disease and other ailments, and thus suffer more than others from the effects of tear-gas. The use of tear-gas is, to say the least, riskier than it first appears.

Migration

A world of walls

Migration

To make the world richer, let people move

Alas, the politics of migration has never been more toxic, argues Robert Guest

Print | Special report Nov 14th 2019

UNDER A MAKESHIFT sunshade by a half-dry riverbed on the Indonesian island of Java, Eddie Sebastian is taking a lunch-break. It is hot and he is tired. He makes \$2 a day collecting stones, breaking them with a hammer and selling them as building material. Asked if he has any better tools, he says: "Our most advanced equipment is that 'forklift'." He is pointing at a rusty wheelbarrow.

Mr Sebastian's talents are wasted. Not just because he would make a fine stand-up comedian, but also because he was born in the wrong place. If he lived in a rich country, he would be operating a mechanical digger and earning \$20 an hour instead of \$2 a day.

Migrants who move from lower- to higher-income countries typically earn three to six times more than they did at home, according to the World Bank. The simple act of moving makes them more productive, because rich countries have better institutions, the rule of law, efficient capital markets and modern companies. Construction workers in rich countries put up better buildings because they have better tools, reliable electricity and their employer does not have to pay off corrupt local officials. Scientists in rich countries make more breakthroughs because they have better laboratories and a wider selection of other scientists to work with.

Small wonder so many of Mr Sebastian's neighbours have migrated. A short walk up a hill from the quarry where he works is a village, Bumiayu, where the migrants' homes are easy to spot. They are the fancy ones with multiple floors, big windows and satellite dishes. "This house belongs to a sailor," says Idrus Dewi, a local fish farmer. "The owner of this house went to [South] Korea." Mr Dewi is one of the lucky ones. His older sister is a nanny in Singapore. The money she sends home has paid her siblings' school fees and provided startup capital for a variety of family enterprises.

If everyone who wanted to migrate were able to do so, global GDP would double, estimates Michael Clemens of the Centre for Global Development, author of a forthcoming book, "The Walls of Nations". No other policy change comes close to generating such colossal rewards. If there is \$90 trillion a year up for grabs, you might think that policymakers would be feverishly devising ways to get a piece of it. They are not.

In most rich countries immigration is political gelignite. Some of the biggest upheavals of the past decade—the election of Donald Trump, the rise of populism in Europe, Britain's vote to leave the European Union—are partly driven by the fear of mass migration. Opponents of immigration everywhere make similar arguments: migrants are disruptive, strain public services, take jobs from locals and are often criminal. "I'm not a racist," says Kevin Drake, a Brexit supporter in Essex, England. "But in school my grandkids don't get attention because the foreigners can't speak English and the teachers spend more time on them." Immigration will "destroy Japan", says Makoto Sakurai of the Japan First Party, which campaigns against Japan's slight opening of its borders.

Few migration-sceptics can cite concrete harm that a foreigner has done to them. But nationalists around the world constantly swap anecdotes, some of them true, that reinforce their fears. In the dozen countries your correspondent visited for this special report, he kept hearing the same handful of horror stories. "German women and girls as young as three are being raped by immigrants," warned Mr Sakurai, who lives 9,000km from Germany.

Exploiting and inflaming the fear of immigrants can win votes. Hungary's prime minister, Viktor Orban, warns of a fictitious plot to swamp his Christian country with Muslims. Mr Trump reportedly wants an alligator moat to keep out Mexicans. Denmark has passed a law doubling the penalties for crimes in migrant "ghettos". Immigrants are "electoral fuel", says Andrea Costa, who runs a charity in Rome that helps them.

The anti-immigrant bug has infected non-rich countries, too. In South Africa in September, at least 12 people were killed in riots aimed at migrants from the rest of Africa. India is building camps to intern some of the 2m people it recently stripped of citizenship.

OK by me in America

This special report will ask the big questions about migration. Who is moving, where and why? What are the effects on the places they move to, the ones they leave and the migrants themselves? It will look at cross-border movement and migration within countries. It will argue, perhaps unpopularity, that the world needs more migration; that the potential gains vastly outweigh the costs, and that those costs can be mitigated with better policies.

Migrants are far less numerous than news footage of overpacked boats suggests. The UN estimates that 270m people live outside the country where they were born (of whom 90% are economic migrants and the rest mostly refugees). That is 3.5% of humanity, a share barely higher than in 1960, though some countries have been more welcoming than others.

It has become physically much easier to move, but bureaucratically much harder. Only 2% of those who arrived at Ellis Island a century ago were turned away. Now it is extremely difficult to migrate legally from a poor country to a rich one, unless you are highly skilled or a close relative of a legal resident. America's green-card lottery last year attracted 294 applicants for each of its 50,000 slots. Partly because of Mr Trump's efforts to make life hard for them, the net inflow of all migrants fell by 74% in 2018, to 200,000 people. Globally, many more people would like to move than can. A Gallup poll suggests that 750m people—15% of the world's adults—want to settle permanently abroad. That includes 33% of sub-Saharan Africans and 27% of those in Latin America and the Caribbean.

To explore the costs and benefits of migration, a good spot to start is the only place where one of the populists' stereotypes—that immigrants are largely criminals—has ever been true: Australia. ■

Skilled migrants

How migration makes the world brainier

Hyperconnected migrants accelerate the spread of ideas

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MIGRATION SPREADS ideas. Often, good ones. Sometimes as simple as warm cassava buns stuffed with cheese. Cristina Talacko moved to Australia because she married an Australian. Her foreign law degrees did not allow her to practise there so she started her own business. She noticed that her friends loved it when she served *pão de queijo*, a light, fluffy, buttery snack from her native Brazil. So she went back to Brazil and studied how to make the buns in bulk. She could not find the right machinery in Australia, so she imported it from Brazil and started selling what for Aussies was a novel (and gluten-free) treat. Business boomed. Now Ms Talacko exports tasty tucker to 25 countries.

Everywhere, immigrants are likelier than the native-born to start their own business. People who pack up and fly thousands of miles to start a new life obviously have get-up-and-go. Also, many countries do not recognise foreign qualifications, as Ms Talacko found, so migrants often become entrepreneurs. A survey in 2015 found that the most common surnames for founders of new firms in Italy were Hu, Chen and Singh, with Rossi a distant fourth.

The benefit for the host country is more than monetary. Yes, Ms Talacko employs Australians and pays a lot of tax. But she has also added a new snack to the Australian menu, making life down under just a tiny bit more joyful.

Fully 29% of Australia's population was born abroad. That is twice the proportion in the United States, the world's best-known nation of immigrants. Until 1973, under what was known as the "white Australia" policy, immigration was largely restricted to people of European origin. Since then, the policy has been colour-blind and unusually welcoming, yet also ruthlessly selective.

Applicants for "skilled independent" visas are given points for such things as education, work experience, English proficiency and, crucially, age. The ideal age is 25-32, when would-be migrants have finished college (possibly at another country's expense) and have their whole working life ahead of them. The applicants with the most points are given permanent residency without even needing a job offer. Some say it would be better to give employers more say, but the system works well enough.

Australia's annual intake of permanent migrants has risen since the 1980s, from 69,000 in 1984-85 (including 14,000 refugees) to around 200,000 from 2011 to 2018 (including 10,000-20,000 refugees). In addition, the number of foreign students at Australian universities doubled, to 400,000, between 2008 and 2018, making higher education the country's third-largest export.

Oz has been transformed. Big cities are now conspicuously multi-ethnic. In Bankstown, a suburb of Sydney, Lebanese restaurants vie for space with Vietnamese money-transfer shops; 32,000 residents speak more than 60 languages at home. The inflow of brains from all around the world has made Australia richer and more dynamic. Since 1973 its population has doubled; its economy has grown 21-fold. The country has enjoyed 28 years of unbroken economic growth.

Australia exemplifies several trends. First, as an exceptionally desirable destination, it can recruit exceptional immigrants. It takes recruiting very seriously. Globally, the most skilled migrants are the most mobile. They face fewer barriers, because more places want them. They also travel farther. Whereas 80% of refugees and 50% of low-skilled migrants move to a neighbouring country, only 20% of highly skilled migrants do. Half of them travel more than 4,000km.

They cluster in a few superstar destinations. Three-quarters of skilled migrants go to the ten most popular countries, and nearly two-thirds move to just four: America, Britain, Canada and Australia (see chart). All four are rich, English-speaking and have top-notch universities—a crucial draw. Three were founded on the notion that immigrants could go there and create a new life; the other, Britain, has a long, if chequered, tradition of cosmopolitan tolerance. Immigrants know they can become American, Canadian, Australian or British. Few imagine that they can become Chinese or Japanese, and becoming German is not easy either.

Within the superstar destination countries, migrants head for a few megastar cities. There are more foreign-born residents in Melbourne or Los Angeles than in the whole of mainland China. The proportions of foreign-born in Toronto, Sydney, New York and London are 46%, 45%, 38% and 38% respectively.

In these cities, brainy people from all around the world come together and bounce ideas off each other. Silicon Valley could not function without engineers from elsewhere. London's financial industry would be lost without number-crunchers from Italy, India and Indiana. Immigrants or their children founded 45% of America's *Fortune* 500 companies, including Apple, Google and Levi Strauss. Two-fifths of America's Nobel science prize-winners since 2000 have been immigrants. Globally, migrants are three times likelier to file patents than non-migrants.

Everyone there will have moved here

Skilled migrants make locals more productive. Commercial or scientific projects typically involve big teams with varied talents and expertise. The absence of just one specialist can delay or scupper the whole project. Drawing on a global talent pool makes it easier to fill such gaps, and pursue bigger ideas. Startups that win visas for foreign staff in America's skilled-visa lottery are more likely to expand, according to a study by Stephen Dimmock of Nanyang Technical University. This is one

reason why, when Mr Trump squeezed the number of such visas, it did not create jobs for Americans. It forced American firms to move talent-hungry operations offshore, finds Britta Glennon of Carnegie Mellon University.

Immigrants bring new perspectives. They also bring knowledge of overseas markets, and connections. This speeds the flow of information between countries. Multinational firms that hire lots of skilled immigrants find it easier to do business with their home countries, says William Kerr of Harvard Business School.

Sriraman Annaswamy, an Indian engineer who has settled in Australia, founded a multimillion-dollar consultancy to share his knowledge of the Indian analytics scene with Australian firms. He helps them tap the vast reservoir of talent in India. One client, a small machine-learning company, wanted 50 data scientists to help predict when water pipes needed to be fixed. A big telecoms firm needed analysts at short notice for a 2,000-person innovation centre. Neither could have found all that expertise in Australia. But Mr Annaswamy was able to find them Indian partners with the necessary brainpower.

The most obvious benefits from migration are what economists call “static” gains—migrants from poorer to richer countries earn more the moment they arrive. “But the real gains are the dynamic ones,” says Caglar Ozden of the World Bank—the complex interplay of newcomers with natives and the outside world. “That is what created the US miracle [of the past two and a half centuries],” says Mr Ozden. It is also what has made Australia so rich.

Not every Aussie is happy about mass immigration. Some are uncomfortable that their country is no longer solidly white. Plenty of Aboriginals are sorry that the white settlers came in the first place. But most grumbles about migrants are couched in non-racial terms. The most common gripes are that, as the population swells, cities become congested and homes become unaffordable. Another worry is geopolitical: that some Chinese migrants may be agents of influence for the dictatorship in Beijing.

Mindful of such concerns, Australia’s conservative government has reduced the annual quota of permanent migrants (excluding refugees) from 190,000 to 160,000, starting this year. Still, public opinion remains robustly pro-immigration: 82% believe immigrants are good for Australia and 52% consider the current pace of immigration about right or too low, against 43% who want it reduced, a Scanlon Foundation poll finds. Many Aussies are fond of their South African dentist and would appreciate a plumber from absolutely anywhere. Anti-immigrant violence is rare.

Australia’s unusually open immigration policy is underpinned by toughness. Successive governments have made it clear that Australia decides who can or cannot come. Those who try to migrate illegally are picked up at sea and, if no other country will take them, dumped in a camp on Nauru, a remote Pacific island. This policy is as cruel as it is controversial, but it has deterred irregular migrants from making the hazardous sea journey. And that makes it easier to win public assent for admitting lots of immigrants via the legal route.

Allison Harell of the University of Quebec found that voters are more tolerant of immigration if they feel that their country is in control of its borders. This is easier for island-states like Australia and harder for those, such as the United States, that share a long land border with a developing country. When people think the government has lost control of its borders—as they did in Germany during the refugee crisis of 2015-16—they grow more hostile to migrants. Voters will support higher levels of immigration only if the process by which they are admitted is orderly and selective. They want to choose whom they let in—which is why footage of a “caravan” of thousands of Central Americans marching northwards and demanding to be let into the United States is probably a vote-winner for Mr Trump.

A different worry is that if all rich countries copied Australia and poached the best foreign talent, poor countries would end up even poorer. It is immoral to cause a “brain drain”, goes the argument, because if all the doctors and engineers leave Liberia or Honduras, sick people there will die and bridges will fall down.

This argument is too simplistic. Migrants send money home—a lot of it. An engineer who makes \$7,000 a year in Zambia might make \$70,000 in America and send back more than the entire amount he used to earn at home.

Migrants also stay in touch with their home countries. Some spend a decade or two abroad, and then go back to start a business with the knowhow they have acquired in a more advanced country. That is, roughly speaking, how the Indian information-technology industry started. Mukesh Ambani, India’s richest industrialist, is a Stanford drop-out. Jack Ma, the founder of Alibaba, China’s biggest e-commerce firm, found out about the internet on a trip to America. A study by the Kauffman Foundation, a think-tank, found that two-thirds of Indian entrepreneurs who return home after working in America maintain at least monthly contact with former colleagues, swapping industry gossip and sharing ideas.

What is more, the lure of earning big money overseas changes the incentives for people in poor countries. It prompts more of them to get educated and acquire marketable skills. Having acquired these skills, many who intended to emigrate never do, perhaps because they fall in love or their parents fall sick. Many who do emigrate, ultimately return. A study by Frédéric Docquier and Hillel Rapoport concluded that “high-skill emigration need not deplete a country’s human-capital stock”—and if well handled, can actually make the sending country richer. Big countries such as India, China and Brazil would benefit handsomely from sending out more migrants. However, once a country starts losing more than 20% of its university graduates, as some small African countries do, it starts to be a drag on growth. ■

Low-skilled migrants

When a worker migrates, a family benefits

The network effects of low-skilled immigration

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THE ROAD to a better life is full of pot-holes. Fourteen years ago Listi Dewi, Idrus's older sister, saw an advertisement for a job working in a restaurant. Her family needed money and the recruiter made golden promises. So she took a long bus ride from her village in central Java to a town near the Indonesian coast.

It was not what she expected. Instead of starting work, she was locked in a dormitory surrounded by a fence and CCTV cameras. She was told she had to learn English, cookery and housework. She told herself that perhaps this was part of the training.

After two months the recruiters revealed that she was going to be a maid in Singapore, a nearby island-state that is 15 times richer than Indonesia. If she refused, she would still owe them an impossibly large sum for her training and rent, they said. So she went. The agents took her first nine months' pay to settle her "debt".

But then things began to look up. Her first employers in Singapore, a traffic cop and a telephone-company employee, were "very, very nice", she says. For the second job, she cut out the unscrupulous middlemen and went straight to a Singaporean recruitment agency, which found her the first of a series of good employers.

She now washes, cooks and cleans for two teachers, and looks after their children. The pay is good, she says: S\$700 (\$500) a month, plus bed and board in their comfortable flat with a shared swimming pool. Since she has few living expenses, she can save or send home most of her wages.

Hundreds of people in each room

The costs and benefits of low-skilled migration are complex. The migrants themselves benefit—otherwise they would not leave. Those who employ them benefit. Those who compete with migrants for jobs may not be so lucky. Some studies have found that unskilled migration drags down the wages of unskilled locals. But this effect is small, if it exists at all. George Borjas of Harvard, an immigration sceptic, finds that immigration reduces the incomes of native-born American high-school dropouts by 1.7%. Giovanni Peri, a pro-immigration economist, finds that it actually raises the wages of this same group by 0.6%. Both agree that for native workers as a whole, the effect on wages is mildly positive.

That is partly because native-born workers can do things that newcomers cannot, such as speak the language fluently and navigate local institutions. When lots of low-skilled immigrants arrive and start doing manual jobs such as cooking, cleaning and building, the native-born often respond by moving into higher-status jobs, such as managing the migrant workers.

Migrants often do jobs that natives shun, such as picking fruit, dishing out parking tickets or caring for the elderly. This reduces what locals pay for fresh strawberries, orderly streets and nursing homes. Admitting an unskilled migrant can even increase the supply of skilled labour. Abundant foreign nannies and cleaners make it more likely that college-educated native-born women will go out to work full-time—as Listi's employers both do.

Amandine Aubry of the OECD and others looked at all types of migration (skilled and unskilled) from developing countries to rich ones. They estimated that 83% of native-born workers benefited materially from it. They did so mostly as consumers, since migrants improved the variety, quality and price of goods and services on offer, from cheaper dry-cleaning to spicier meals.

For the migrants themselves, the biggest cost of moving is often emotional. Leaving home means leaving behind family, friends and one's own culture. For Listi, there is an extra cost. In Singapore foreigners who make more than S\$6,000 a month are allowed to bring their families, but low-paid workers like her are not.

So eager is the government to prevent maids from putting down roots or burdening public services that they are given regular health checks and, if found to be pregnant, sent home to give birth. Listi's two children are back in Indonesia with relatives. "I used to cry every day because I missed my kids so much," she says. "But now we use WhatsApp video to call a few times a week. Having connectivity makes it very different working overseas."

Others have it worse. Tati, another Indonesian maid, used to support a jobless husband with the wages she earned in the Gulf. When she returned for a visit, she discovered that he had not only found another woman but also sold their family home without her permission. "He says he spent the money on the kid. But I don't believe it," fumes Tati. She dumped him.

I like the island Manhattan

The most obvious benefits for low-skilled economic migrants are, unsurprisingly, economic. When they move from a poor country to a rich one, their wages swiftly become a lot like those of similarly skilled workers in the place they have moved to, and nothing like those of their place of origin. Natural experiments show that this is not just because the kind of people who migrate are more ambitious. A study of Tongans who entered a random lottery to work in New Zealand found that those who won visas and moved earned nearly 300% more than those who did not—in the first year.

Migrants typically share their gains with their families back home. Remittances to low- and middle-income countries reached a record high of \$529bn in 2018, up nearly 10% from the previous year. In 2019 the World Bank predicts that remittances will be the largest source of external financing for such countries. They are already three times greater than foreign aid. And unlike donor funds, they tend to flow directly to the intended recipients, rather than being squandered or embezzled by corrupt officials.

For many countries they are a lifeline. Remittances are more than 10% of GDP in 28 countries, and even higher in Tonga (39%), Haiti (34%) and Tajikistan (30%). Remittance flows are more reliable than foreign investment. Indeed, they are helpfully countercyclical. When a crisis erupts, foreign investors flee. But migrants feel doubly compelled to help their relatives back home.

Listi's family sometimes went hungry before she went to Singapore. Now, thanks partly to the money she sends home, they are thriving. They have built a neat new home in Bumiayu, with a shop attached to the front selling noodles, spices, cigarettes, soap and other household goods. Visitors are treated to a heaped assortment of cakes made of rice, palm sugar and coconut flakes. As your correspondent is interviewing her siblings, Listi makes a video call from 1,100km away to chat with her eight-year-old son, and make sure he is doing his homework.

For years Listi has paid the school fees for her 17-year-old sister Wanaziah, and helped other relatives. As soon as she turns 18, Wanaziah plans to migrate, too. She wants to work in an electronics factory in Japan. She has heard it is a prosperous, punctual, disciplined place. She likes the sound of that, though to her traditional Muslim ears the Japanese attitude to sex sounds frighteningly libertine. She worries about being lonely, but takes comfort in the fact that several of her schoolmates are also planning to go to Japan. She wants to work abroad for long enough to buy some land. Then she will come home and get married.

Some migrants are exploited. Those who move illegally are especially vulnerable, since they often hire criminals to help them cross borders. Many Africans trying to reach Europe pass through Libya, because it is too lawless to stop them. Unfortunately, it is also too lawless to protect them from abuse. "I was jailed for six months in Libya for no reason," says Ali, a Gabonese migrant now in Italy. "And the guards beat me with a metal pipe." Other migrants have been kidnapped in Libya and auctioned to farmers as slaves.

Domestic workers everywhere are vulnerable, since private homes are difficult places for labour inspectors to access. Some maids' employers take their passports, fail to pay them agreed wages and even beat or rape them. But such things happen in their home countries, too. Indeed, the countries where forced labour is most common are the ones migrants strive hardest to leave.

Migrants have found many ways to reduce the likelihood of being victimised. The most important is the mobile phone, which lets them swap information with friends who have already made the journey. In Bumiayu everyone knows how Listi was cheated when she first ventured abroad. But that is rare now, her family agree. Well-regulated local agencies place people in legal jobs overseas, and help with paperwork. The Indonesian embassy in Singapore circulates numbers for migrants to call if they are in danger. People have learned from Listi's example. Idrus has a word for his pioneering sister. She is a *pahlawan*—a heroic warrior. ■

The backlash

Why the arguments against immigration are so popular

But wildly exaggerated

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TO UNDERSTAND WHY people oppose immigration, it is worth visiting Tilbury, a port town outside London. Thurrock, the local parliamentary constituency, is 81% white British. Many residents moved here from London as the capital filled with migrants and house prices soared. London's white-British population fell from 60% to 45% in a single decade, between 2001 and 2011. Some whites moved out because they sold their flats for tidy sums and bought nicer homes with gardens farther from the centre. Others did not like being a minority in the city where they grew up.

During the Brexit-referendum campaign in 2016, Brexiteers argued that leaving the European Union was the only way for Britain to regain control of its borders. A whopping 72% of voters in Thurrock voted to leave. Most do not hate foreigners, but many feel beleaguered and disrespected. "We're English, not British. If you say you're English apparently you're a racist," says Trish Byne, who runs a tattoo and piercing shop in Tilbury with her husband, Tony. "In the UK, indigenous people are ignored," says Tony. "The rights of minorities take precedence."

"We're in favour of immigration, but controlled immigration," says Trish. She wants immigrants to integrate, but fears that many try "to impose their cultures and language and religion". She mentions no personal experiences of harm, but says: "In London, I've seen videos on YouTube of streets where English people cannot go because there is sharia law." She adds, of refugees: "You don't know what boat people have got in their backpacks, it could be terrorist weaponry. That is not me living in la-la land; that is what I've heard from people working on the docks."

I'll give my cousins a free ride

Thoughtful writers such as Paul Collier and David Goodhart argue that if too many migrants arrive too quickly, it disrupts communities and inflicts unwelcome cultural change on the natives. Mr Goodhart complains that liberal politicians attach too little weight to the views of people who like things the way they were. This argument should be taken seriously—for some people, any kind of cultural change feels like a threat. The old find it hardest to adapt. "I was born here and it was a lovely village. Now it's a concrete jungle and you can't even hear people speaking English—it's awful," says Ann Hoyle, 76. But many of the things that voters fear about migrants are not true, and some of their objections can be answered, up to a point, with smarter policies.

Whatever Trish may have seen online, there are no streets in London where the native-born cannot go. Islamist terrorism is a worry, but should be seen in perspective. Terrorists killed six people a year in Britain in the decade to 2017. A Brit is eight times likelier to be struck by lightning (though only half as likely to die from it). Young male native-born Brits and Americans are more likely to commit ordinary violent crimes than young male immigrants.

In all rich democracies, locals grumble that immigrants drain the welfare state. "If I go to the doctor, I have to pay for it. Foreigners come and they get childbirth and operations all paid for. They should be made to pay, too. If they can't, send them packing," says Joan Smith, a 73-year-old in Tilbury. Again, this is not an accurate picture. Migrants pay taxes. In countries with flexible labour markets and thrifty welfare states, such as America and Britain, they generally pay their way, unlike the native-born. Over a lifetime, a typical migrant from Europe to Britain can expect to pay £78,000 more in taxes than he receives in benefits.

Immigrants are a burden only if a host country's policies set them up to be one, by making it too easy to draw benefits or too hard to work. Sweden committed both these errors with asylum-seekers during the European migrant crisis in 2015-16, showering them with free stuff while forcing them to remain idle for long periods. This was not sustainable, and the government curbed the flow of refugees by five-sixths.

The simplest way to make sure that migrants do not abuse any given benefit is to make them ineligible for it, for five or ten years or permanently. "Build a wall around the welfare state, not around the country," urged the late William Niskanen, an economist. In the United Arab Emirates, where migrants have no access to state benefits and no chance of citizenship, citizens do not seem to mind being outnumbered nine to one by foreign workers.

Another fear, that migrants will steal jobs from locals, is as widespread as it seems logical. "Migrants in construction are much better workers than the English, who show up late and leave early," says Danny Proctor, who manages building projects in Tilbury. "Foreigners aren't lazy like that. I have a lot of plasterers from Lithuania and Poland. For 20 years they've been the best workers." An English plasterer listening to Mr Proctor might despair. But the supply of jobs is not fixed. Migrants spend money as well as earning it, thus creating more demand for other people's labour. Immigration slightly raises the wages of most native workers. The relatively small number of losers could be compensated out of the vastly larger gains that accrue to the immigrants themselves.

The World Bank recommends that governments replace visa quotas with taxes to regulate immigration flows. They could do so via a surtax on immigrants' incomes, or other means. They could earmark the proceeds for a popular cause, such as

pensions or health care, or remit the cash directly to citizens. The more migrants they admit, the bigger the payout. This might make the native-born see immigration as less of a threat and more of an opportunity.

William Bourke of Sustainable Australia, a party that campaigns to reduce immigration, argues that letting in too many newcomers leads to overcrowding, congestion, high house prices and environmental stress. “As people move from the developing world to the rich one, they move from a low carbon footprint to a high one.”

The notion that Australia is overcrowded seems absurd. The empty plains of North Dakota are three times more densely populated. But migration in the rich world is highly concentrated. Newcomers head for the most dynamic cities, where everyone else wants to live, too. Congestion and high house prices are big problems in places like Sydney and London, but they can be eased by better policies. Restrictive zoning rules do more to inflate house prices than immigration does. Cities would accommodate many more people if they could build upwards. And immigrants’ taxes could cover the cost of the extra roads and subway lines needed.

The impact of migration on climate change is probably small. Migrants who escape poverty might emit more carbon, but it is grotesque to argue that they should therefore remain poor. And there are two counter-arguments. First, migration stimulates scientific research, which will help curb global warming. An Indian in North America is 28,000 times more likely to file a patent than in India.

Second, migration causes fertility to plunge. Migrants from poor countries to rich ones no longer want seven children. They want their kids to go to college, so they have small families. Ethnic Somali women have an average of 6.2 kids in Somalia but only 2.4 in Norway. Allowing more migration to rich countries would reduce the future global population, making environmental problems easier to tackle in the long run.

Some opponents of immigration fret that it will increase inequality. Some think it unjust that people from poor places might come to rich ones to work as servants. But if the migrants thought that, they would not come. Workers from a poor country who start at the bottom in a rich one will, statistically, make their new home more unequal. But their moving will reduce global inequality.

A deeper worry is that mass migration might undermine the traits that make the rich world rich, such as good institutions and the rule of law. Many migrants come from countries with terrible, crooked governments. Suppose enough of them arrived to replace the norms of, say, Japan with those of Haiti?

Immigration sceptics cite many alarming anecdotes. Mexican mobsters sell drugs in America. A gang of Pakistani-British men sexually abused hundreds of young white girls in Yorkshire. The Chinese government snoops on Chinese overseas students to make sure they say nothing heretical about democracy or Taiwan.

But step back and a more hopeful picture emerges. America’s population has risen 60-fold since 1800. It has absorbed migrants from Tsarist Russia, Hitler’s Germany, Ho Chi Minh’s Vietnam and nearly every other dictatorship of the past 200 years, without losing its democratic soul. On the contrary, migrants head to America because they prefer its institutions to the ones back home.

By most measures, immigrants in the United States are integrating as well as ever. Their unemployment rate is a negligible 3.5%, lower than for the native-born. Only half of first-generation immigrants speak English “very well”, but by the second generation English dominates even among Hispanics, who are surrounded by other Spanish-speakers. Only 6% of second-generation Hispanic immigrants speak mostly Spanish. By the fourth generation, half of those with Hispanic forebears are so well integrated that they no longer identify as Hispanic.

America’s success in absorbing immigrants is remarkable, but in recent decades it has been surpassed. The share of the population who are foreign-born is higher in Australia (29%), New Zealand (24%) and Canada (21%) than in the United States (14%). None of these new migrant magnets has a perfect immigration system. But all combine openness with order, selecting the migrants they want, processing their visas reasonably quickly and excluding unauthorised migrants fairly effectively.

Australia shows that a well-run democracy can be twice as open to immigrants as America and still rank ten places higher on the UN’s Human Development Index. Singapore, where 45% of residents are foreign-born, shows that a well-run city-state can be more open still. It would be rash to open the gates suddenly and completely. But countries could open a bit and see how it goes. ■

Domestic migration

Why people should leave the countryside

Quitting a village and heading for the slums makes people richer

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IN WEICHENG, A village in Hebei province, a group of friends are tucking into duck, broccoli and dumplings, flavoured with raw garlic and lubricated with *baijiu* liquor. It is the Chinese new year, and migrant workers have come home to see their families. Nationwide, some 3bn journeys were undertaken during the holiday season this year, making it the biggest mass migration ever; though next year's will doubtless be even bigger.

Suddenly a loud phone interrupts. Two men pop outside to take the call. When they come back, they both have new jobs: a three-month contract on a building site in Taiyuan, a city neither man has visited before. It pays 240 yuan (\$34) a day, more than twice what they could make in the village. They were recruited by word of mouth—a former co-worker vouched that they were reliable.

Weicheng village is not rich. Women break the ice on a river to hand-wash clothes. Toilets are holes in the ground. But villagers have motorbikes, televisions and plenty to eat. That is a huge blessing. Though no one dares talk about it, the elderly still remember mass starvation during the “Great Leap Forward” of 1958-61, when Mao Zedong forced peasants onto collective farms, where tens of millions died of hunger and disease.

China is still a one-party state, but it owes much of its current prosperity to an increase in liberty. Since Mao died, his former subjects have won greater freedom to grow the crops they choose, to set up businesses and keep the profits, to own property, and to move around the country. The freedom to move, though far from absolute, has been transformational. Under Mao, peasants were banned from leaving their home area and, if they somehow made it to a city, they were barred from buying food, notes Bradley Gardner in “China's Great Migration”. Now, there are more rural migrants in China than there are cross-border migrants in the world.

By moving from unproductive paddyfields to better jobs in factories and shops, they have made themselves and China richer. Somewhere between a fifth and a third of the country's colossal economic growth between the late 1970s and the current decade is due to this great migration.

China's population is now 60% urban, up from 18% in 1978. Sub-Saharan Africa is only 40% urban; India lags even further behind, at 34%. Mahatma Gandhi, modern India's founding father, thought the growth of cities was “an evil thing, unfortunate for mankind and the world”. He believed that Indians would be spiritually more fulfilled if they stayed in villages, growing their own food and spinning their own clothes.

Really? Five farmers in Gandhi's home state of Gujarat showed your correspondent how much wheat they had harvested in three days, using hand-held sickles. A combine harvester could have done the job in a minute or two.

The farmers are sharecroppers. They are always hungry at the start of the season, so the landlord advances them grain. Asked how much they currently owe him, they do not know: none of them can read or do sums. Asked how much they typically receive at the end of the year, they say “nothing”. The landlord always calculates that they have received their full share of the crop. He does not want them to have spare food or cash; if they did, they might quit. Aajeevika Bureau, a local charity, helps illiterate farm workers draw up contracts, and keeps copies on their behalf. But the quickest way to earn more is to move to a city.

“In the city we have money,” says Ratansinh, who moved from rural Uttar Pradesh to Ahmedabad, the Gujarati commercial capital, when he was 18. “In the village we earned nothing. What we grew, we ate. What was left, we bartered for clothes and tools.”

Now 52, he earns 24,000 rupees (\$340) a month as a supervisor in a small textiles factory. The machines rattle loudly in the background as he talks. Like many Indian men who move to a city, he has left his family behind. His wife remains on the farm; his two children are at college. He goes back to the village for two months a year. He misses his wife, but “that's the compromise you make. If I go back to the village, I can't pay for my children's education.”

B.R. Ambedkar a contemporary of Gandhi's who championed dalits, called the Indian village “a den of ignorance, narrow-mindedness and communalism”. Many migrants agree. “In my village, cutting someone's tree down by mistake could lead to murder,” recalls Tawwaj Ali, a factory worker in Ahmedabad. “No one knows who you are in the city,” he adds, “so there's less conflict.” Indeed, strict rules about “untouchability” are impossible to enforce in a jam-packed Mumbai train, notes Chinmay Tumbe of the Indian Institute of Management in Ahmedabad, author of “India Moving”.

I know a boat you can get on

In rich countries 81% of people live in urban areas. Mechanised farms produce enough food for all, while leaving plenty of space for parks and wilderness. In the rest of the world half the population still lives in the countryside. Many politicians, like Gandhi, think they should stay there, either for romantic reasons (the countryside is so beautiful!) or because they do not want peasants building unsightly slums in their cities.

Under China's *hukou* (household registration) system, rural migrants who work in top-tier cities are treated as second-class citizens. The aim is to discourage them from settling there. They are barred from urban public services, and so must either leave their kids with grandma in the village or scrape together the cash to put them in shoddy urban private schools. Sometimes city authorities bulldoze these schools. The *hukou* system is one reason why rural Chinese children are dramatically worse educated than urban ones—and two-thirds of Chinese children are officially rural.

Several people from Weicheng village work in Beijing. This means separation. "It would be impossible to get our kids into a public school there," sighs a mother who looks after them in the village while her husband is away.

In India the obstacles to internal migration are more subtle. One is language—India has more than 100 of them. Another is the difficulty of obtaining government benefits after crossing a state line. A study by Zovanga Kone of Oxford University and others finds that migration between neighbouring Indian districts is 50% higher if they are in the same state than if they are separated by a state border.

Another problem is violence. Rape is common and poorly policed. So although many Indian women migrate to marry, few migrate to work (unlike in China). And because most migrant workers are men, the places where they cluster have wildly unbalanced sex ratios, making them even more dangerous for women.

Babu Gamar, a farmer in Gujarat, says that half the men in his village go away to work. But "young women can't go—they might be abused," he says. Virjibhai Gamar, a neighbour, concurs. Every month he goes with his brothers to work on building sites. Their wives and sisters do not join them.

The distorted sex ratio of Indian migrants helps demographers track trends that would otherwise be hard to measure. In areas that send a lot of migrants to cities, the working-age population is heavily female, but the elderly population is not, notes Mr Tumbe. That implies that rural migrants eventually go back home. Many scrimp in the city, often sleeping four to a room, so they can buy land in their village.

In "Good Economics for Hard Times", Abhijit Banerjee and Esther Duflo, two of the winners of this year's Nobel prize for economics, argue that most people who would benefit from moving stay put, for three reasons. They value the familiar; they overestimate the risks of moving; and they do not know anyone or have anywhere to stay in the place they could go.

Mr Banerjee and Ms Duflo suggest giving poor people small amounts of cash and some information. A charity in northern Bangladesh tried this. Some villagers were randomly selected and told how much higher wages were in a city. Others were given the same information plus \$11.50 in cash—roughly the cost of a bus fare and two days' food—but only if they went to work in the city.

The villagers who were given information only were no likelier to migrate. But the combination of cash and nudge prompted 22% of households who would not otherwise have sent out a migrant to do so. And the families who sent out a migrant saw their daily intake of calories shoot up from 1,400 a head to 2,200; that is, from the edge of starvation to tolerable comfort. Mobility fills bellies.

In rich countries internal migration is seldom a matter of life or death. But many people could earn more if they moved from stagnant towns to thriving ones. Hull's jobless could easily find work in London. Alas, they will struggle to find a place to live. Rents are extortionate in the cities people most want to move to. NIMBYs block any structure that might mar their view. Red tape can make property several times more expensive than it need be, forcing potential migrants to stay where rents are cheap. Americans are barely half as likely to move to a different county as they were in the 1950s. And this means their talents are often wasted. Chang-Tai Hsieh of the University of Chicago and Enrico Moretti of the University of California, Berkeley estimate that artificial restrictions on housing supply knocked 36% off America's aggregate GDP growth between 1964 and 2009.

Because moving disrupts a previous way of life, it forces the mover to try new things. Mr Banerjee and Ms Duflo describe a natural experiment that took place when a volcanic eruption in 1973 destroyed a third of the houses on the Westman islands, off the coast of Iceland. The lava struck randomly. Before the eruption, there was no significant difference between the people who lost homes and those who did not. But afterwards, the ones whose homes were destroyed were more likely to leave the islands, by 42% to 26%. (They were compensated for their loss, but did not have to spend the money on rebuilding their old home.)

Researchers traced the islanders' progress. They found that, for those who were under 25 at the time of the eruption, losing a house led to large material gains. "By 2014 those whose (parental) houses were destroyed earned over \$3,000 per year more than those whose (parental) houses were not destroyed." The gains came from moving: those who upped sticks made \$25,000 a year more than those who did not. They were more likely to go to college, and to find a job that matched their intellect and aptitude, rather than following the islands' default career of catching fish and getting by. Generations of parents have threatened to "light a fire" under their shiftless offspring. It turns out that's not a bad idea. ■

Voting with your feet

Why voting with your feet is more effective than a ballot

Moving lets people choose the kind of society they live in

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WHEN A VOTER casts a ballot, his choice is unlikely to affect his life. If he votes with his feet, there is a good chance he will change his life dramatically, observes Ilya Somin of George Mason University, author of a forthcoming book, “Free to Move”. Consider Edinson Infante, a Venezuelan who makes handbags out of banknotes, folded and glued together. A single lipstick placed in one of his bags is worth far more than the stack of Bolívars from which it was made. That is why Mr Infante emigrated.

He could not make a living in Venezuela, a socialist dictatorship. So he moved to Colombia, the reasonably well-run country next door, where he sells his art on the streets. He now earns enough to pay rent, eat properly and send groceries home to his mother. He says he feels free in Colombia. He can stroll without feeling scared, and afford occasional treats like caramel sweets.

Since 2014, 4.6m Venezuelans have voted with their feet against the violent, corrupt regime of Nicolás Maduro—a seventh of the population. In a country where elections are rigged, the only way they can get a better government is to go and find one.

Foot-voting can take place over any distance and for many reasons. A person may move from Congo to Botswana to be better governed, or from New York to Florida for a lower tax bill and kinder weather. Foot-voters are typically better informed than ballot-casters. One vote is unlikely to affect an election result, so hours spent analysing each candidate’s policies are probably wasted. When migrating, by contrast, an informed choice pays huge dividends and an ignorant one can spell disaster.

If people were allowed to vote freely with their feet, they would have more choices about the kind of society in which they lived. A gay man might choose to leave Iran, where his love is punishable by death, and move to Uruguay, where he could get married. A traditional Saudi man might choose to remain in Saudi Arabia, where Islamic piety is enforced and women are kept in their place. His wives might prefer to move to Canada, where they would be free to divorce him. The biggest gains from foot-voting often accrue to ill-treated groups such as ethnic and sexual minorities, and women.

The lengths to which people will go to vote with their feet give a hint of how large the benefits can be. Emmanuel, for example, left Gabon because it fails to protect young women like her from sexual violence. Her father used to abuse her. When her mother found out, she blamed Emmanuel, beat her, threw her clothes into the street and ordered her out of the house.

It is hard enough reporting a sex crime in a rich democracy, where the police are trained to treat allegations sensitively. In Gabon the cops are as scary as the criminals. Emmanuel saw no chance of justice, so when a friend offered her a plane ticket to Turkey, she went. From there, heavily pregnant, she boarded a flimsy boat bound for Greece. It leaked, and began to sink. She fell into the freezing water. Her friends called the coastguard, who found her after 45 minutes. Amazingly, both she and her baby survived. Now in Athens, she helps out at Melissa Network, a refugee charity, and hopes to train as a medical secretary. She says she feels much safer in Greece: “You have human rights here.”

A worry about foot-voting is that it might retard reform in the places migrants leave. If the strongest objectors to Venezuela’s dictatorship have gone, who will stand up to it? It is a reasonable fear. When ethnic minorities flee to escape mistreatment, their departure may indeed reward their tormentors. For example, a politician may court the votes of his own tribe by stirring up animosity against another, thus spurring the out-group to leave his electoral district and making it easier for him to win re-election.

However, foot-voting can also accelerate reform. Dissidents often find safety abroad. Exiles played a big role in ending apartheid in South Africa, and today are the most audible critics of authoritarian regimes in China and North Korea. Even the possibility of exit can influence how societies are run. If taxpayers can move, governments must govern better to avoid losing them. When the citizens of the closed, communist states of eastern Europe were allowed to head west and sample the fruits of capitalism in the late 1980s, the Soviet empire was revealed to be a failure, and collapsed. Migrants often stimulate reform at home by finding good ideas overseas and bringing or sending them back. India’s successful economic opening in the 1990s was informed by the observation that Indians were prospering everywhere except in India.

The arguments for allowing more freedom to move are partly economic. Migrants from poor to rich countries could collectively increase their incomes by tens of trillions of dollars. For this opportunity, they would surely be willing to share some of the benefits with the rich-country voters who let them in. Since the economic disruption caused by migration is modest, an imaginative government with sensible policies (come to work, do not draw welfare) could raise living standards all round.

But that is only half the story. Liberal, democratic capitalist societies have many flaws, but also great virtues: peace, freedom, tolerance and a culture that fosters innovation. The simplest way to spread these virtues is to let more people in. Every time a migrant flees a dictatorship for a democracy, global freedom grows a little. Every time someone leaves a kleptocracy for a more law-abiding state, humanity is slightly better governed. Every time a woman leaves a country where her testimony is worth less than a man’s, global sexism ebbs a millimetre or two. Migration is, therefore, a deeply moral issue.

Rich countries have a choice. They are ageing. Without immigration, their populations will soon start to shrink, if they have not started already. They can choose to dwindle gradually into comfortable obscurity. Or they can confidently recruit talent

from everywhere, inviting bright minds and willing hands to help build a bigger Australia, a bigger America or even a bigger Japan.

Smoke on your pipe and put that in

The more the West opens its doors, the richer and more powerful it will be in 50 years. Indeed, as the world's population stabilises and falls, each country's weight in the world will depend more and more on whether people want to live there. This is one of the biggest advantages that rich democracies have over nationalist dictatorships such as China. On current trends, most will squander it.

Potential migrants watch the news. The brightest have choices, and will shun places they think might mistreat them. Already, brainy Chinese are wondering whether they will be welcome in America, which is one reason why the number of new foreign students there fell by 7% in 2017-18. Brainy Indians are tiring of the interminable wait for a green card. Some give up and go elsewhere.

Uma Kanekar, a high-flying Indian IT specialist, moved to Canada after a decade in the United States waiting vainly for a green card. The last straw was the realisation that her daughter Disha, a college student who had lived in New Jersey since she was six, might be sent back to India when she turned 21 and was no longer covered by her mother's temporary work visa. Canada gave the family permanent residence in eight months. "It's so nice to be in a country where you feel you belong," says Disha.

For all the furious demagoguery around migration, there is hope. Despite (or perhaps because of) Mr Trump, more Americans today say immigration should be increased than say it should be cut, finds a Pew poll. Majorities in Spain, Canada and Japan support keeping migrant flows the same or raising them. Most Greeks, Italians and Russians do not. So be it. Countries can have different policies. Many will build walls. If they fail to put well-designed doors in them, they will end up poorer, weaker and duller. ■

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Corporate governance

Out with the proxies

Out with the proxies

Proxy advisers come under fire

Not everyone is as pleased as business lobbies

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PROXY ADVISORY services used to be an obscure feature of corporate America. No longer. These geeky outfits, which review mountains of proposals put forward by shareholders on topics ranging from mergers and executive pay to climate change and diversity, then issue recommendations, can sway how their clients vote. Given that most are big institutional investors with clout, this advice matters. Earlier this year analysts at Credit Suisse, an investment bank, predicted that proxy advisers' counsel would decide the fate of Bristol-Myers Squibb's mammoth \$74bn bid for Celgene, a rival drugmaker.

Big institutional investors like Capital Group and Fidelity have in-house teams to deal with such matters. But most funds rely on outside advisers. Two of them dominate the business. Institutional Shareholder Services (ISS), owned by Genstar, an American private-equity firm, provides proxy recommendations on over 40,000 shareholder meetings in more than 100 countries each year. Glass Lewis informs some 20,000 votes in 100 countries. It is owned by two Canadian asset managers. Between them, ISS and Glass Lewis control 97% of America's proxy-advice market.

Their client base has boomed. In 1950 institutions held only 10% of American shares. By 2018 it was close to 80%. As shareholder activism has grown in America, so have proxy battles—from 270 campaigns in 2012 to over 300 this year. Proliferating passive investment funds, led by Vanguard, are keenly handing their voting rights over to proxy advisers.

Zombie apocalypse

Business lobbies have had enough. "We have been concerned about proxy advisory firms for some time," says Tom Quaadman of the US Chamber of Commerce. He argues that they lack transparency and have "significant" conflicts of interest arising from their consulting divisions, which advise companies on improving corporate governance. A report from the chamber last year bemoaned an onslaught of "zombie proposals", which come up repeatedly—and repeatedly fail to win a majority of votes.

In August America's Securities and Exchange Commission (SEC) ruled that voting recommendations made by the advisers amounted to "solicitations" under proxy rules, a higher regulatory standard than the firms faced before. They would, for instance, have to prove compliance with anti-fraud provisions. ISS filed a lawsuit in response. On November 5th the SEC proposed more rule changes, "to improve the accuracy and transparency of proxy voting advice". Among other things, these would raise the minimum share of votes required for shareholder proposals to succeed and let target firms review proxy recommendations twice before investors see them.

Corporate groups are cock-a-hoop. The National Association of Manufacturers, one of those spearheading the proxy war, declared that the proposal was "a significant victory" that "sets up reasonable guardrails" on the proxy process. Joseph Grundfest of Stanford Law School sees nothing wrong with giving firms the chance to challenge the factual basis of recommendations: "As long as ISS is accurate in everything it does, it has no additional legal liability."

Nonsense, say critics of the new provisions, who liken them to slapping a tax on advice critical of management. Charles Elson of the University of Delaware argues the SEC proposal is "a punitive solution looking for a problem". He believes that business chambers' claims of vast numbers of errors in proxy recommendations are overblown. It is telling that few of the proxy advisory firms' institutional clients, who would be most affected by erroneous or conflicted advice, are complaining.

On the contrary. "The goal of the co-ordinated, corporate-funded campaigns...is to make it harder and more expensive for institutional investors to get the expert advice they need to hold executives accountable," says the Council of Institutional Investors, which represents funds with \$4trn in assets under management. Chris Ailman of the California State Teachers' Retirement System, which has \$242bn in assets, fears a return to "egregious management behaviour". "People have forgotten Enron and WorldCom," he warns, referring to two huge corporate-fraud scandals in the early 2000s.

Drew Chapman of Baker Botts, a law firm, sees the proposed rule changes as double-edged. More transparency should in principle benefit investors. But tougher solicitation rules may make it easier for a firm's management to sue the proxy firms over advice it does not like—possibly discouraging them from being overly critical.

The SEC's proposal now enters a 60-day comment period. The regulator is expected to make a final ruling early next year. The advisory firms may then challenge it in court. That could stretch the fight out by months, or even years.

Another outcome is possible. The SEC could instead modify the proposal to soften its sharp edges. This would push proxy firms to be more transparent, especially about possible conflicts of interest, but without burdening them with costly new regulations and reporting requirements. Robert Jackson, a dissenting commissioner on the SEC (and rare regulator with deep

expertise in data analytics), makes the economic case for finesse.

Mr Jackson's research suggests that bosses are right to complain about nuisance proposals. Shareholder votes put forward by "gadflies"—the ten most prolific submitters in any given year—coincided with declines in returns at American target firms in the months following a shareholder meeting. However, listed American firms which faced non-gadfly proposals outperformed the market by 5% one year after the shareholder meeting at which they were presented was held.

That implies that any final SEC ruling should put off gadflies, but not other proposals that would keep managements honest. Doing this will not be easy. But the SEC can surely do better than its current suggestions. These seem overly kind to managers—and, in Mr Jackson's words, "swat at a gadfly with a sledgehammer". ■

Bartleby
Don't show, tell

The agonies of videoconferencing

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IT WAS ONE of the viral videos of 2017. Robert Kelly, an American academic, was discussing South Korean politics live on BBC World News when his two small children, eager for daddy's attention, toddled into the room to interrupt him. It was a natural, joyful moment.

What did not look natural was Mr Kelly's pose before the interruption. He was being interviewed by video link, staring at his screen, his gaze fixed and glassy. Like most people who use the same technology, he looked as if he was appearing in a hostage video.

These awkward interactions are a regular feature of 24-hour news channels, with their insatiable appetite for experts, many of whom live far from the studio. Increasingly, they are a regular part of people's working lives, too. Many meetings now require a video screen so that others can participate from afar—their faces looming large like the villains appearing on the screen of the bridge of the starship *Enterprise* in an episode of "Star Trek".

The future is likely to involve even more screen-based meetings. One survey, published earlier this year, predicted 12% annual growth in global sales of videoconferencing equipment between now and 2023.

On the plus side, videoconferencing could contribute to combating climate change. A video link is immeasurably cleaner than a long-haul flight. However, it is difficult to find any realistic estimates of how much this will save in terms of carbon emissions. It is helpful if video calls mean people do not drive to the office; less helpful if they simply avoid public transport.

Some advocates also claim that videoconferencing beats phone calls. It is, they say, easier to establish a rapport with someone if you see them on screen, rather than simply hear their voice. Facial expressions and hand gestures can give a better clue as to the other person's mood and intentions, which can help avoid misunderstandings.

Yet in many professional exchanges you may want to disguise your actual state of mind. Even in more intimate settings than the office texting has replaced phone conversations. If being heard makes many people self-conscious, imagine being seen. Bartleby has a face that only a mother could love—which is why, although he occasionally appears on *The Economist's* podcasts, he is rightly absent from its films. He has no desire to be seen by the other people with whom he is communicating—or to see himself in a corner of the screen, a process that automatically makes him want to fidget. If a public-relations type suggests a video interview with someone, your columnist always opts for a phone call instead.

Not everyone wants to be watched while undertaking a long phone call, especially at home where neither clothes nor surroundings redound to most people's advantage. It is also hard to pay attention for extended periods. The ability to check emails, or sports scores, is the only way to cope with the tedium of, say, calls to discuss participation in conference panels (which are typically longer than the panel itself). That option disappears when your face is on camera.

Videoconferencing may improve. Facebook has brought out a product called Portal, which promises (or threatens?) to keep track of you as you move about, always keeping you in shot. Apple plans a feature which will use "advanced image manipulation" to ensure it seems as if your eyes are always looking at the screen, even when they are not.

To Bartleby, the first recalls scenes in old horror flicks where the eyes in the painting followed the victim around the room. He prefers the sound of the second, especially if a version could keep a digitised version of his face on screen, while artificial intelligence is programmed to insert pre-recorded phrases like "you're right" and "mmhm" at suitable moments, leaving him to go about his business.

Great writers have toyed with the idea of our being constantly watched—with disturbing results. Jeremy Bentham devised the panopticon, a prison where a single guard can see into every inmate's cell. Winston Smith, the doomed hero of George Orwell's "1984", finds that agents of Big Brother have been watching him through his TV screen, and are thus aware of his disloyalty. A videoconference can be highly useful on occasion. But not every meeting requires it. Before switching on the screen, ask yourself: "Is my face really necessary?"

When I'm 84

Octogenarians are shaking up Italian business

And preventing its proper rejuvenation

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CARLO DE BENEDETTI is fond of high drama. When he resigned after only three months as chief executive of Fiat in 1976, rumours swirled that he was cobbling together a bid for the then-ailing carmaker with the help of Swiss financiers. Mr De Benedetti denied ever having such designs. But he seemed to relish all the attention.

Mr De Benedetti, who turned 85 on November 14th, is back centre-stage of Italian business with another unorthodox bid. Last month he offered €38m (\$42m) to buy a 29.9% stake of GEDI Gruppo Editoriale, publisher of newspapers including *La Stampa* and *La Repubblica*, as part of a plan to relaunch the business, which is currently run by his sons, Marco and Rodolfo. His offspring have “neither the skills nor the passion required to be publishers”, he lamented in an interview with *Corriere della Sera*, a rival daily. GEDI was a ship without a captain, at the mercy of high waves, according to the patriarch. On October 28th he resigned as honorary chairman of GEDI. (Exor, a holding company whose chairman sits on the board of *The Economist's* parent company, has a 6% stake in GEDI.)

Mr De Benedetti's return may be particularly operatic, but other Italian Methuselahs are also in the spotlight. Stefano Pessina, the 78-year-old billionaire who is both the boss and the biggest shareholder of Walgreens Boots Alliance is exploring a deal to take the struggling American drugstore chain private. On November 11th KKR, an American private-equity giant which teamed up with Mr Pessina in 2007 to buy Alliance Boots, made a formal offer for Walgreens. The \$70bn buy-out would be the largest in history. Days earlier data from Consob, an Italian securities regulator, revealed that Leonardo Del Vecchio, founder of Luxottica, a maker of spectacles (including Ray-Ban and Oakley sunglasses), who is 84, has just boosted to nearly 10% his stake in Mediobanca, an influential investment bank. Mr Del Vecchio is expected to increase his stake further. Italy's second-richest man is challenging Mediobanca to build up its investment-banking business and to rely less on income from its stake in Generali, Italy's biggest insurer (of which Mr Del Vecchio also owns a chunk).

Another 84-year-old, Luciano Benetton, is again getting involved in the business of making colourful clothes that first made his family's name. A revival of the fashion business may help divert attention from the clan's infrastructure business. This was hurt by the tragic collapse last year of a bridge in Genoa managed by Autostrade, a toll-road operator owned by a holding company the Benettos control.

Ageing patriarchs who are reluctant to bow out, or so much as plan for the day when nature will eventually force them to, are a feature of Italian capitalism. Giorgio Armani is running his fashion empire at the age of 85. Silvio Berlusconi, Italy's 83-year-old former prime minister, remains the power behind the throne at Mediaset, Italy's biggest commercial broadcaster (which is run by his son, Pier Silvio). When Bernardo Caprotti died three years ago aged 90 he was still managing Esselunga, a supermarket chain he founded.

In the past ten years the leadership of companies has been rejuvenated, observes Francesco Giavazzi at Bocconi University in Milan. But, as Raffaella Sadun of Harvard Business School points out, that may be because founders put younger family members in charge as a way of retaining control. “It is not clear their relations are the best people for the job,” she says. Plenty of talented managers are reluctant to join firms where their career prospects would be subordinated to feckless scions. The mid-sized companies of Germany's *Mittelstand* could teach corporate Italy a thing or two about how to handle succession, Ms Sadun says.

The younger De Benedettis were taken aback by the paternal foray. Despite a sharp decline in third-quarter profits, they insist that the group needs no restructuring. At least the fatherly bid, however hurtful, could be lucrative. In 2012 Mr De Benedetti gave Rodolfo, Marco and his third son, Edoardo, his stake in CIR, a holding company which owns 44% of GEDI. Each would pocket millions if he bought it back. ■

Ascending scale

A huge lift business is up for sale

New technology may sustain an enduring oligopoly

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MODERN CITIES owe their shape to two 19th-century revolutions in personal transportation. For urban sprawl, blame the car. The skyscrapers that shape many of the world's most recognisable cityscapes would not exist without fast and safe lifts. Whereas the four biggest carmakers sell two-fifths of road vehicles, liftmakers have the market sewn up far more tightly. The top four firms provide over two-thirds of all lifts (see chart). More concentration may be arriving shortly.

The potential for consolidation comes courtesy of Thyssenkrupp. The struggling German industrial conglomerate needs to raise money as it restructures radically after years of dwindling profits and strategic missteps. Elevator Technology (ET), its lift business, could be worth €15bn-18bn (\$17bn-20bn), roughly equivalent to Thyssenkrupp's market value (including net debt). It plans to sell either a stake in the business or the whole thing.

There are, it appears, plenty of takers willing to jump on Thyssenkrupp lifts. Groups that submitted bids before a deadline on November 8th are said to include some of the world's biggest private-equity firms, such as 3G, Blackstone and Carlyle. Finland's Kone, another lift-industry giant, has long coveted ET. Japan's Hitachi is also likely to have put in a bid.

Whoever they turn out to be, the bidders are attracted by an industry that has more ups than downs. The global lift market was worth \$73bn in 2018 and the share prices of lift companies have comfortably outperformed the capital-goods industry as a whole for years, according to Morgan Stanley, a bank. Lifts are a "great business", explains Klas Bergelind of Citi, another bank, because half of all revenues are recurring. The cyclical business of selling and installing new lifts is complemented by a steady stream of income from maintaining and modernising existing lifts.

That part of the business looks poised to gain in importance. Citi expects annual sales of new lifts to grow by around 1% for the next few years. But that still leaves plenty that need maintenance, including the 900,000 or so installed in 2018, double the number a decade earlier. Over 60% of these were built in China, despite its cooling property boom.

China's vast servicing market may provide a long-term opportunity that helps the big liftmakers weather the global slow-down in new equipment sales. At the moment maintenance of a worldwide installed base of 16m lifts is a far less concentrated business, largely thanks to a bevy of small Chinese competitors. But as lifts become connected devices, bigger manufacturers could replicate their dominance in the market for new lifts. They have more money than smaller rivals to invest in technologies to diagnose problems remotely in real time, predict failures and prevent breakdowns.

Which way will ET fall? A sale to a private-equity firm would quickly raise the cash Thyssenkrupp urgently needs. But it would yield none of the economies of scale that a tie-up with another liftmaker could produce. Hitachi, strong in its home market, will see this as its one opportunity to elevate itself into the global big league. And as Jefferies, another bank, observes, Otis and Schindler may not be content to "watch from the sidelines".

The firm that has courted ET the longest is Kone. Together the pair would create a firm as towering as the skyscrapers their products make possible. The businesses are geographically complementary: ET is stronger in America, Kone does better in China. Combining their service networks, research and development and the like might save €1bn a year. But overlap in Europe will trouble competition authorities. Thyssenkrupp may prefer a deal with fewer potential regulatory complications.

Bringing together the world's two most innovative liftmakers would certainly lift architects' spirits. ET is testing MULTI, a ropeless system that uses linear motors to allow its lifts to travel up, down and sideways. Kone has developed a carbon-fibre-composite cable that allows ever longer travel heights—and so taller structures. Together these two technologies could reshape the city once again. ■


Internet shopping frenzies

One for the money

The world's biggest online shopping frenzy

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IN 1993 A group of male students at Nanjing University in China decided to celebrate their singledom. The annual date would be November 11th, comprised of four lonely 1s. The story may be apocryphal. But since 2009 Alibaba, China's e-commerce giant, has turned Singles' Day into a very real shopping frenzy. It has long since eclipsed America's Black Friday and Cyber Monday online sales combined. This year Taylor Swift performed at the countdown. In the next 24 hours Alibaba sold \$38.4bn-worth of merchandise. Competitors like jd.com and Pinduoduo have piled in. Some people worry that what began as a lighthearted excuse to treat oneself has turned into a high-pressure version of Valentine's Day. Others decry the harsh conditions workers face in order to meet demand and the holiday's environmental impact. But shoppers certainly seem to like it.



Schumpeter

Ocado wages a grocery war against Amazon, Walmart and Alibaba

It has as good a chance as anyone

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PANIC IS SWEEPING through supermarket aisles. Profits are meagre, convenience is king, discounters are rife. Even Amazon, Walmart and Alibaba, the world's three biggest retailers, are trembling. No one has fully mastered the art of selling groceries online. The business represents just 2.3%, or \$160bn, of a worldwide grocery market of \$7trn. As that share rises, as it will surely continue to, it could be life or death for some in the industry.

In the midst of this *mêlée* is a fast-talking Brit, Tim Steiner. The firm he co-founded, Ocado, has shaken up the British online retail market, and it is trying to do the same internationally. By selling expertise from almost 20 years as a pioneering online grocer to supermarkets in America and elsewhere, he wants to help them become a fourth force in the industry—able to resist the big three.

His patter is honed by a career battling doubters (an analyst once put him down with the quip: “Ocado begins with an ‘o’, ends with an ‘o’, and is worth zero”). Sceptics still harbour deep reservations. Though Ocado has more than tripled in value in the past two years to £7.5bn (\$9.6bn), its share price has plunged recently. But his insurgency shows how the battle to dominate online groceries remains wide open. Ocado has as good a chance as anyone.

Grocery is a sadomasochistic business. Sellers can count on stable revenues but have little margin for error on sourcing, price and waste. Shoppers suffer from a retail version of Stockholm syndrome. They are lured by grocers with the promise of savings, only to be fleeced. Shops make them do the work of picking the produce and bagging it. They set traps in the aisles—in the form of strategically placed celebrity magazines or freshly baked doughnuts—to slow shoppers down. Yet customers continue to return for more, despite having ever more options to order online and have groceries delivered to their doorstep. In China and America, online grocery shopping is a miserly 3.8% and 1.6% of the total, respectively.

Mr Steiner, a former Goldman Sachs bond trader, has pulled off the rare feat of making home-delivery both tolerable for shoppers and profitable for sellers. He knows how to squeeze the last farthing out of a tomato and has turned the sorting of groceries in warehouses into a science—specifically, clever robotics—which has kept costs competitive. Partly thanks to Ocado, Britain trails only South Korea and Japan in its embrace of online grocers.

Earlier this year Mr Steiner persuaded Marks & Spencer, a British retailer, to pay £750m for a half of Ocado's domestic online-grocery business. The money is helping develop his firm's newer, more lucrative international venture, which licenses the know-how to build modular high-tech warehouses that can be scaled up as needed. The biggest deal, struck in 2018, has been with Kroger. The American supermarket chain aims to order 20 Ocado customer fulfilment centres (CFCs, or, as Kroger calls them, sheds) by 2021, far more than the four that Ocado has so far erected in Britain (the newest burned down this year). Despite their recent slide Ocado's shares still trade like a software firm's, not a supermarket's. JPMorgan Cazenove, a broker, said last month that the firm would need to announce 126 CFCs to justify a recent valuation of £9bn, three times the number it has planned.

Kroger's sheds, which may take up to five years to complete, already give a sense of the emerging grocery battle lines. They will be big, up to about 33,000 square metres (350,000 square feet), though they can be flexed up and down. They will sit on the edge of cities. Ocado aims to make up for the long drives to deliver groceries by speeding up its robots, packing crates of 50 items in six to seven minutes. There will be no time-pressed “pickers” elbowing shoppers aside to fill an online order, as in other supermarkets.

But the Ocado model, which works well in urban Britain, is as yet untested in more sparsely populated places. In America and China others are moving in a different direction—and in a hurry.

In 2017 Amazon sent shivers down American grocers' spines by buying Whole Foods. On November 11th it confirmed that it was opening its first grocery store in California that is not part of that upscale chain. Last month it launched free delivery of Amazon Fresh, a grocery service, to its Prime members. So far its bark has been worse than its bite. By one estimate only 6% of its sales are perishables, compared with 65% at a traditional grocer.

Amazon's domestic rivals are making existing supermarkets the kernel of their online operations, either for picking up orders or delivering them. Close by will be micro-fulfilment centres, which will seek to emulate Ocado's efficiency, but cut down on travel times. The model is Walmart, which cited sharp growth in online grocery from its supercentres in America as a reason for higher sales this summer. Last month it launched a service in which employees in three American cities can deliver groceries directly to customers' fridges when no one is home, using smart-entry technology and wearable cameras. It also promises same-day delivery under a membership programme like Amazon Prime.

Open sesames

Alibaba's high-tech Hema supermarkets in China are more cutting-edge still. They use QR codes on fish to validate freshness, enable app-based shopping, have robots aplenty (naturally) and offer 30-minute delivery within a small radius. Yet it is unclear

if Hema's technology will succeed where armies of cheap labour, ready to sort, pick and deliver groceries, have mostly failed.

No one has as yet quite cracked the problem. More wizardry, perhaps virtual-reality headsets, may be required to make internet grocery shopping as intuitive for people as it is offline. But the incentives for grocers to press ahead are huge. No relationship in retail is as intense as that of shoppers with their supermarket. Few firms have as many eggs in the online-shopping basket as Ocado. If things do not work out, at least the Kroger deal has made Mr Steiner a rich man. If they do, he may be a rare example of a British entrepreneur with global ambitions who is not off his trolley. ■

Public pensions

State of denial

State of denial

America's public-sector pension schemes are trillions of dollars short

Police officers, teachers and other public workers face a brutal reckoning

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PERHAPS IT TAKES teachers to give politicians a lesson. Any official who wants to understand the terrible state of American public-sector pensions should read the financial report of the Illinois Teachers Pension Fund. Its funding ratio of 40.7% is one of the worst in America, according to the Centre for Retirement Research (CRR) in Boston (see table).

Since it was established in 1939, Illinois officials have not once set aside enough money to fund the pension promises made. As a result, three-quarters of the money the state (or rather the taxpayer) now pays in each year merely covers shortfalls from previous years. The situation is getting worse. In 2009 the schemes' actuaries requested \$2.1bn, but only \$1.6bn was paid. By 2018 the state paid in \$4.2bn, still well short of the \$7.1bn the actuaries asked for. The trustees have warned that the plan would be "unable to absorb any financial shocks created by a sustained downturn in the markets".

Other schemes have attracted similarly stark warnings. Illinois is the class dunce, with six languishing schemes. Chicago Municipal is just 25% funded and the actuaries warn that "the risk of insolvency for the fund has increased". The actuaries of the Chicago police scheme warn that "this is a severely underfunded plan" with a shortfall of \$10bn; the funded ratio is not projected to reach 50% until 2043.

Offering workers a defined-benefit pension, where an income based on final salary is paid for the rest of their lives, is an expensive proposition, especially as life expectancies lengthen. Pension shortfalls are common across America, with the average public scheme monitored by the CRR just 72.4% funded. That adds up to a collective shortfall of more than \$1.6trn.

When a scheme is underfunded, one of three things can happen. More contributions can be made, by employers or workers or both. Benefits can be cut. Or the scheme can earn a higher return on its investments to make up for the shortfall.

Cities and states are paying more, but still not enough. In 2001 public-sector employers contributed a further 5.3% of their payroll to meet pension promises; now that figure is around 16.5% on average (see chart). Even so, in no year since 2001 has the average employer contributed as much as demanded by actuaries. Last year's shortfall was just under 1% of payroll.

This reluctance is understandable. Politicians dislike raising taxes—or cutting services to pay for higher contributions. Workers do not want to see their current pay reduced by higher deductions, or their future benefits cut. And in any case, in some states courts have ruled that pension benefits, once promised, cannot be taken away. Arizona attempted a reform in 2012 that would have increased contributions for anyone with less than 20 years' service. Workers sued and the courts ruled in their favour in 2016, requiring the scheme to repay \$220m. Since the failed reform plan was instituted, employers' contributions as a share of payroll have almost doubled.

So states and cities have crossed their fingers and hoped that their investments will bail them out. America's buoyant stock-market has done its best to help. Returns on government bonds have also been good for much of the past three decades. Even so, the average public-sector scheme is less well funded now than it was in 2001.

And the markets are unlikely to keep being so helpful. In 1982 the government sold long-term Treasury bonds with a yield of 14.6%; now such bonds yield just 2.4%. Equity valuations are high by historic standards. That suggests future returns will be lower than normal.

Kentucky offers a sobering example of how states can spiral towards disaster. In 2001 its retirement system was 120% funded and employers were putting in just 1.9% of payroll. After the dotcom slump, the funding position deteriorated. By 2005 the scheme was less than 75% funded and the required contribution had gone up to 5.3%. But the state fell short of the target every year until 2015, by which point the contribution had leapt to nearly 33% of payroll. In 2018 the actuaries asked for 41%.

Kentucky's scheme covering "non-hazardous" workers (those who are not employed by the emergency services) is just 12.8% funded. One of its beneficiaries is Larry Totten, who worked for Kentucky's park service and retired in 2010 after a 36-year career. When he found out about the scheme's parlous state, he joined Kentucky Public Retirees, a group that lobbies for pensioners. "There's enough blame to go around," he says. Though it was state governors (of various parties) who failed to pay the required amounts into the scheme, it was the state legislature that let them get away with it.

Such severely underfunded schemes risk entering two vicious circles. The first involves costs. Kentucky's public pension scheme covers a wide range of state employers and some have to pay 85% of payroll to cover their pension obligations. Employing someone on \$50,000 a year requires an extra \$42,500 of contributions. They naturally seek to lay off workers to reduce this cost. But that leaves fewer people paying in without changing the number currently receiving retirement benefits. That increases the short-term squeeze.

The second concerns the accounting treatment of public-sector funds. Many assume nominal returns on their portfolios of 7% or more after fees. This optimism has a big impact. Calculating the cost of a pension promise requires many assumptions—how long people will live, how much wages will rise and so on. Future payouts must be discounted to calculate a cost in current terms, and thus contributions. The higher the discount rate, the lower the current cost and the less employers have to pay in. Public-sector schemes use the assumed rate of investment return as their discount rate—so a high rate lowers the apparent cost.

But if a scheme becomes severely underfunded, a plunge in the stockmarket could leave it unable to cover current payouts. So it must invest in safer, lower-yielding securities, such as government bonds. That reduces the discount rate and makes the pension hole even bigger. Kentucky's non-hazardous scheme uses an expected return of 5.25%, much lower than most public-sector schemes.

These calculations look surreal by comparison with private-sector pension funds. Their accounting rules regard a pension promise as a debt like any other. After all, courts insist pensions have to be paid, whatever the investment returns. The discount rate must therefore be based on the cost of debt—for companies, the yield on AA-rated corporate bonds. Since that yield, now around 3%, is far lower than the return assumed by public-sector funds, private-sector pension liabilities are very expensive. Faced with a \$22.4bn shortfall, General Electric recently froze pension benefits for 20,000 employees.

These different accounting approaches seem to imply that it is cheaper to fund a public-sector pension than a private-sector one. In reality, that cannot be the case. The public-sector pension deficit is therefore much larger than the \$1.6trn estimated by the CRR. It is hard to be precise about how much larger, but the accounts of troubled schemes give some indication.

The Chicago Teachers scheme has a shortfall of \$13.4bn, and a funding ratio of 47.9% on the basis of an assumed return of 6.8%. Its financial report reveals that a one-percentage-point fall in the discount rate would increase the deficit by \$3bn. The private-sector accounting approach would lower the discount rate by around four percentage points.

This is a crisis no one wants to solve, at least not quickly. The Chicago Teachers scheme is aiming for 90% funding, but not until 2059—long after many retired members will have died. New Jersey's teachers' scheme is not scheduled to be fully funded until 2048. Such promises might as well be dated "the 12th of never". The bill for taxpayers seems certain to rise substantially. For the states with the biggest pension holes, political conflict is in store. ■

OPEC's waning power**Tighter production targets have failed to lift the price of oil***Demand has risen more slowly than at any time since the financial crisis***Print | Finance and economics** Nov 14th 2019

MEMBERS OF THE Organisation of the Petroleum Exporting Countries, or OPEC, live in a state of uneasy anticipation. Concern about climate change may mean demand for oil wanes in the coming decades. OPEC's power in oil markets is fading fast. On November 13th the International Energy Agency (IEA), an intergovernmental forecaster, predicted that by 2030 OPEC and Russia, an ally, would pump just 47% of the world's crude. Yet OPEC has a more immediate problem at hand.

Global demand for oil has been unexpectedly anaemic this year (see chart). Sanford C. Bernstein, a research firm, estimates that it may have risen by just 0.8%, the slowest pace since the financial crisis. OPEC and its allies, led by Russia, are due to meet in Vienna on December 5th and 6th. The first question is whether they will announce a new plan to support the oil price. If they do, the second question is whether they will stick to it.

Technically, a plan is already in place. In December 2018 the broadened OPEC alliance announced a cut in production of 1.2m barrels a day, with the intention of pushing up the price of crude. That agreement has been extended to March 2020. But several OPEC members, including Iraq and Nigeria, have frequently pumped more oil than allowed by last year's deal.

Russia was supposed to help OPEC move into a new era. But the starting point from which it agreed to cut production was unusually high—and output this year has exceeded its quota even so. The country's oil industry "is really chafing under these production cuts", says Aaron Brady of IHS Markit, a data and research firm. The result is that Russia's average daily production so far in 2019, after the OPEC deal to lower output, is higher than the average in 2018, before the deal was struck. Saudi Arabia has adjusted accordingly. In July and August, for instance, the kingdom cut output by more than twice the amount required by last year's agreement.

But such efforts have proved insufficient to lift oil prices. On the face of it, they should have been buoyant. American sanctions have clamped down on exports from Venezuela and Iran, respectively the possessors of the world's largest and fourth-largest proved oil reserves. Tankers have been seized in the Gulf. Iraq, OPEC's second-largest producer, is at risk of being engulfed by protests. Most notably, in September a drone attack knocked out more than half of Saudi Arabia's production. The loss was more severe than that caused by the Iranian revolution in 1979 or Iraq's invasion of Kuwait in 1990.

Yet oil markets have shrugged it all off. "In the past such geopolitical tensions gave a boost to oil prices," says Fatih Birol, the head of the IEA. The price of Brent crude has subsided from a high of nearly \$75 in April to around \$60 today.

One reason is that America's frackers have continued to pump more oil. The country's daily output in September was 12% above last year's average. It is also because economic growth has slowed, with oil demand suffering not just in Japan but in India and South-East Asia, where it was expected to grow strongly.

Next year economic growth may tick up. Investors are pressing American shale companies to reduce spending and boost profits. That would result in flatter production and, in turn, help nudge prices higher.

But new supply elsewhere looks set to push prices in the other direction. ExxonMobil is ramping up production off the coast of Guyana. Brazil's attempt to auction new offshore leases this month was a failure—supermajors, such as ExxonMobil and BP, declined to bid. Yet investments already made offshore mean that by 2021 Brazil's crude production may be 18% higher than this year, according to IHS Markit.

Norway will also see a surge in output. Notwithstanding its announcement in October that its sovereign-wealth fund would sell its holdings in oil exploration and production companies, the country itself is expected to increase production markedly in the coming years. Its state-backed energy giant, Equinor, said in October that Johan Sverdrup, a giant new oilfield in the North Sea, had begun producing crude.

The broadened OPEC alliance must now decide whether to hold at the reductions agreed to last year, or to cut harder. The current arrangement may be insufficient to keep Brent crude above \$60 a barrel. Yet there may be little appetite for dramatically lower production targets.

Aramco, Saudi Arabia's state-backed oil company, plans to list some of its shares in mid-December, shortly after OPEC's meeting. Any agreement for a big cut in the kingdom's output would lower estimates for Aramco's earnings, which would suppress its valuation, points out Neil Beveridge of Bernstein. On the other hand, he says, "the worst thing that could happen to Aramco would be to see the listing go ahead and see the oil price collapse." This has been a dramatic year on oil markets. December could bring further plot twists. ■

Parked trade policy

The Trump administration is trying to reforge carmakers' supply chains*So far to little effect*

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“YOU WOULD need a magic wand to bring back manufacturing jobs,” said President Donald Trump on November 12th, quoting someone from a past administration. “Well, we brought them back.” The world’s carmakers could be forgiven for wishing he had not bothered. They have been thwacked with tariffs on steel, aluminium and components from China, and threatened with broader levies on cars and car parts in the name of national security. A tariff deadline was looming as *The Economist* went to press. And they have new rules of the road, in the form of the USMCA, a trade deal with Mexico and Canada.

But despite being pressed to bulk up their American manufacturing presence, there is little sign so far that foreign carmakers are leading an American investment boom. According to Kristin Dziczek of the Centre for Automotive Research, their investments in American facilities have been fairly steady since the recession.

Meanwhile the value of American imports of passenger vehicles and light trucks continues to grow, by 6% in the first three quarters of 2019 compared with a year earlier. Though European car executives were hauled in for a meeting with Mr Trump last December to discuss their American production plans, the value of imported vehicles from the European Union rose over the same period by 2%.

The trade data may be distorted by stockpiling: in its third-quarter earnings call Volkswagen, a big European carmaker, mentioned this as a defence against threatened tariffs. And Ms Dziczek cautions that trade policies are just one of many considerations when companies are deciding where to locate new plants. American demand for cars is sagging, and production is shifting from saloon cars to other larger vehicles such as SUVs, as well as electric cars.

Behind the scenes, however, car companies are planning to rework their supply chains to meet the USMCA’s stricter content requirements. Ann Wilson of the Motor and Equipment Manufacturers’ Association, an industry group, says members are drawing up plans to manufacture more in America. “You will see structural changes,” says Dietmar Ostermann, who works with car companies at PwC, an accountancy. Plans are being hatched but have not yet been executed, he says. Plants in Mexico owned by international carmakers have the most changes to make.

The delay is in part because reforging supply chains is a slow and costly affair. Plants and production lines are planned years in advance. Finding new suppliers requires lengthy certification processes.

But politicians also bear some of the blame. Congressional haggling over the USMCA means that there is still uncertainty about whether and when it will come into force. And until legislation is passed, the details will remain unclear. One parts-maker grouses about “inconsistency in the application and interpretation of the rules”, having received a variety of requests for information from different manufacturers, each seeking to find out whether a product would be compliant. Such vagueness makes planning even harder.

Then there are Mr Trump’s other trade-related threats: to put further tariffs on imported components from China, and to slap duties on imported cars and parts from the EU. Executives have faced up to the fact that tensions with China could be long-lasting, but are struggling to work out how high tariffs could end up. Threatened duties on imported car parts, ostensibly to protect America’s national security, have come under such intense criticism that company bosses hope they will never be applied. But Mr Trump’s obsession with cars is too great for them to bet on it.

The president’s critics will complain that his meddling in car companies’ supply chains comes with costs, and that he is both bringing higher prices for consumers and sapping the competitiveness of America as an export base. All true. But if his chief desire is that more auto production is done in America than would have been without his measures, it is too soon to declare that he has failed. ■

Buttonwood
The case for a falling dollar

Why the dollar's ascendancy is looking tired

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NOBODY WANTS to be called an unthinking optimist. Prospects for the riskier sort of investments are cloudy. The global economy faces numerous threats. Being even mildly bullish can seem a bit unreflective.

So whisper it, don't shout it, but the mood has changed recently for the better. Since the start of October, global equity prices are up by around 7%. Bond yields have risen. There has been a move away from the safe or defensive assets that hold up in bad economic times, towards those that do well in an upswing (see [article](#)). Hopes for a preliminary trade deal between America and China pushed the yuan briefly below seven to the dollar last week.

At times like these, thoughts naturally turn to the outlook for the dollar more generally. A weaker dollar would be both a signal and a driver of a broader improvement in risk appetite. The dollar's fortunes have not yet shifted decisively. But the conditions for it to weaken are starting to fall into place.

To understand why, consider the forces behind the dollar's ascendancy since 2014. America's economy, though sluggish by historical standards, has benefited from an ever-reliable engine: the American consumer. The euro-zone, by contrast, responded to its sovereign-debt crisis by saving more. Its surplus savings, together with those generated in Asia, must find a home. America's high-yielding bonds and modish technology stocks have made it the go-to place for global savers. Capital inflows drove up the price of dollar assets. America's net investment position—the foreign assets its residents own abroad minus what they owe to foreigners—went deeper into the red (see chart).

As industry slumped and trade faltered this year, America still looked the best of a bad lot. But the scales are tilting against the dollar. Global manufacturing may have bottomed out. The purchasing managers' index for industry compiled by the global economics team at JPMorgan Chase rose for a third month in October. Growth in output is barely positive, but an improving trend in new orders alongside falling stocks is a sign of a turn in the manufacturing cycle. The improvement is halting. Jobs-rich service industries are still slowing, so it is too early to expect better GDP growth. But hopes are growing of a pickup in 2020, driven by economies beyond America's shores.

This matters for the dollar. Synchronised global GDP growth opens the door for investors to move capital out of America's expensive dollar assets to where assets are cheaper, says Hans Redeker, a currency strategist at Morgan Stanley. Moreover, interest-rate cuts this year by the Federal Reserve mean that the dollar is now receiving less support from elevated bond yields. Central bankers in other places are disinclined to relax policy further. The European Central Bank's governing council, for instance, was divided on the decision in September to cut interest rates and restart quantitative easing.

A shift in global capital away from America would be a particular boon to emerging markets. A fall in the dollar would make it easier to service their foreign-currency debts. It would also ease local credit conditions, thus helping GDP growth. For investors, emerging markets are where the value is. Equity markets are cheaper. Bond yields are higher. Currencies have scope to make up the ground they lost earlier this year and in the slump of 2013-16.

Apart from such trouble spots as Argentina, Chile and Turkey, emerging-market currencies have started to rally against the dollar. Still, the euro is the gauge by which many people judge the dollar's vigour, or lack of it. And it has been stubbornly weak. Sentiment is coloured by the travails of Germany, the currency zone's largest economy, which only narrowly avoided a technical recession (two quarters of declining GDP) in the six months to the end of September. But the euro at least seems to have found a floor. And if the world economy gathers strength the euro will eventually rally.

That is still a big if. Another breakdown in trade talks between America and China could lead to a renewed slump in global manufacturing and business spending, and kill off any incipient dollar weakness. Other political risks—the protests in Hong Kong; the Democratic primaries in America—are looming larger. And after a longish expansion, the world economy is lacking vigour. But the dollar's stint at the top of the currency pile is looking tired, too. People are already whispering. The noises may soon get a lot louder.

Sentimental journey

The improved mood in financial markets

Investors are shunning safe assets in favour of risky ones

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IT HAS BEEN a year of mood swings in financial markets. In the spring and summer, anxious investors piled into the safety of government bonds, driving yields down sharply. Yields have recovered in recent weeks (see chart 1). This is not the only sign that investor sentiment has improved.

In general, safe assets have been sold in favour of cyclical ones. The Australian dollar, a cyclical currency, is up against the yen, a haven for the fearful. Something similar is happening in commodity markets, where the price of copper, a barometer of global industry, has risen against the price of gold (see chart 2).

Equity prices in America have reached a new peak. But what is more striking is the performance of cyclical stocks relative to defensive ones. Within America's market the prices of industrial stocks, which do well in business-cycle upswings, have risen relative to the prices of utility stocks, a safer bet in hard times. In Europe the stocks of financial firms, the fortunes of which are tied to the business cycle, have risen relative to those of firms that make consumer staples—food, beverages, household goods and so on—which are more resilient in bad times (see chart 3).

Investors have also begun to embrace assets at the riskier end of the spectrum. A host of emerging-market currencies have gained against the dollar since the start of October (see chart 4).

Fake it till you break it

Some Chinese firms turn out to have lied about their state pedigree

Being owned by the government goes down well when you are looking for a loan

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IT CERTAINLY SOUNDS pretty powerful: China Nuclear Engineering Construction Group. Once controlled by the People's Liberation Army, it is now, it says, part of a "central state-owned enterprise (SOE)", an elite class of firms belonging to the Chinese government. Its website is full of pictures of its executives signing deals around the country. Like any good state-run giant, it is politically correct, its statements echoing Communist Party slogans. There is just one snag: China Nuclear Engineering Construction Group is not a central SOE.

As China's economy slows, defaults have risen sharply. Such failures, though painful, separate strong companies from also-rans, a process other countries know well. In China there is an extra wrinkle: the downturn is also exposing fake SOEs. These are companies that misled creditors about their state connections to suggest they would be supported if they ran into trouble. But when trouble arises, the government is nowhere to be found.

Last month Huarong, a firm that handles non-performing loans, put 610m yuan (\$87m) of China Nuclear Engineering Construction's assets up for sale, consisting of property in the province of Anhui. Despite its name, China Nuclear focused on property, like several other fake SOEs. It also benefited from confusion with a real SOE, China Nuclear Engineering and Construction Corporation (eagle-eyed readers will spot two differences in their names).

It has plenty of peers. China Huayang Economic and Trade Group claimed to be one of China's first SOEs, but a subsidiary said in a recent filing that it is in fact a non-state entity. Huayang has defaulted on 7bn yuan in bonds. China City Construction sold 99% of its shares in 2016 to a private investor, but kept calling itself an SOE. It has since had a string of defaults. Other firms have embellished their connections. China Energy Reserve and Chemicals Group Overseas Capital Company reassured rating agencies with its structure, supposedly traceable to a powerful SOE. It defaulted on a \$350m bond last year.

Such stories have become common enough that Gelonghui, a financial-information company, published a tongue-in-cheek guide on how to become a fake SOE. Find a long-forgotten government institution; target an official with no hope of promotion; then "be a shameless toady" to get the institution's seal to register your company. Finally, build a maze of subsidiaries.

Fake SOEs are only a small part of China's economic landscape. But they highlight two pathologies. First, private firms struggle to get financing. Banks are more willing to lend to (real) SOEs, knowing that they are less likely to go bust.

The second is poor due diligence. The belief that the government will prop up SOEs is a substitute for assessing their true value. Chinese investors are not the only ones who fall prey to this. When China Energy Reserve defaulted, South Korean brokerages made large losses. Barclays, a British bank, was one of its underwriters.

Red flags are often obvious. A recent visit to the registered address of the state firm listed as the owner of China Nuclear revealed another, apparently unrelated company. "Ultimately the problem is that investors aren't sufficiently rational," says Zhang Licong of CITIC Securities. "They have their natural biases, and some firms take full advantage of them." ■

The reckoning continues**Stiff sentences for bank fraud capture Italy's sour public mood**

*Populist politicians think widespread anger at bankers plays in their favour***Print | Finance and economics** Nov 14th 2019

IN THE VAULTS of Monte dei Paschi di Siena is a torn and yellowing sheet of paper: a death sentence from the 15th century, handed down for trying to steal gold from what may be the world's oldest bank. Monte Paschi's archivists now have another historic sentence for their files. On November 8th a court in Milan convicted former executives for hiding vast losses from derivatives transactions a decade ago, in collusion with bankers from Deutsche Bank and Nomura. It was one of the harshest penalties imposed anywhere relating to the financial crisis.

Thirteen people were convicted, including Michele Faissola, Deutsche Bank's former global head of rates, and Sadeq Sayeed, Nomura's former chief executive for Europe. Giuseppe Mussari, Monte Paschi's former chairman, received the heaviest sentence, of seven years and six months. Deutsche Bank and Nomura were fined a total of nearly €160m (\$176m). Monte Paschi, which was nationalised in 2017 as its losses spiralled, had already settled.

Judges ruled that the former bankers had hidden hundreds of millions of euros at Monte Paschi between 2008 and 2012 using a "two-leg" bet on interest rates. This flattered its current accounting position, but led to several years of losses as it repaid Deutsche and Nomura. Deutsche is reviewing the ruling; Nomura has said it is considering an appeal. Giuseppe Iannacone, a lawyer for the former Deutsche bankers, said his clients would be appealing against the "shocking" sentences.

Taxpayers who have stumped up for three state bail-outs for Monte Paschi in less than a decade may rejoice—at least briefly; sentences in Italy are often cut, and convictions overturned, on appeal. Nevertheless, these ones signal a shift in sentiment. Italian bankers used to be seen as pillars of the community, not least because of the community projects they funded. No longer. In an IPSOS poll published in September, Italians ranked bankers as among the most untrustworthy professionals.

Part of the reason is scandal—at Monte Paschi and, allegedly, several other banks. Moreover, past reckless lending and political interference have created a mountain of problem loans, worth €340bn at its peak in 2015. Monte Paschi remains weighed down by €14.5bn of bad loans, complicating the government's plan to sell its stake by 2021.

As the Milan court was reaching its verdict, a group of lawyers met in Venice to discuss the social costs of banks' attempts to rid themselves of bad debts and non-performing loans. One of them, Andrea Arman, has joined the populist Five Star Movement—because of his anger at bankers' corruption, he says. He cites locals who receive letters daily from debt collectors. Matteo Salvini, the leader of the nativist Northern League, who is plotting in opposition, also spies opportunity in popular anger at the fallout. During a recent rally he gave the stage to a retail-banking investor who lost money after the crisis. Italian bankers like to say their crisis is over. But their clients—and the politicians courting them—are not ready to move on. ■

A life's rich tapestry

How Jim Simons became the most successful investor of all time

Renaissance Technologies' flagship fund has earned \$100bn in trading profits

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The Man Who Solved The Market. Gregory Zuckerman. *Penguin Random House*; 359 pages; \$30

THE BEST investors' strategies often sound simple. "Whether it's socks or stocks, I like buying quality merchandise when it's marked down," says Warren Buffett. Betting big on the fallout from epoch-making events, like the fall of the Berlin Wall, is George Soros's preferred tactic. Jim Simons, the founder of Renaissance Technologies, a hedge fund, spots patterns.

Mr Simons is less famous than Mr Soros or Mr Buffett, but no less successful. He founded Renaissance in 1982, aged 44, after a successful career in mathematics and code-breaking. Its flagship Medallion fund has earned \$100bn in trading profits since 1988, mostly for its employees. The average annual return of 66% before fees makes Mr Simons one of the most successful investors of all time. He is now worth \$21bn.

A new book, "The Man Who Solved the Market" by Gregory Zuckerman of the *Wall Street Journal*, asks how he did it. It is a compelling read. Mr Simons started investing in 1978 by looking for patterns in currencies. He had early successes with simple "reversion to the mean" strategies, buying when a currency fell far enough below its recent average. A decade later René Carmona, another mathematician, convinced him that rather than searching for such patterns themselves, they should hand over the job to an algorithm, and trade even when the logic was unclear to its human minders. In the 1990s Robert Mercer and Peter Brown, formerly of IBM, developed a "self-correcting" version of this trading approach that would double down on successful strategies and cut losing ones. These techniques, now called machine learning, have become widespread.

There were missteps along the way. Early in his career Mr Simons unintentionally almost cornered the market for Maine potatoes, only realising when regulators reprimanded him. For months the team struggled to make money from trading shares, until a young programmer spotted that Mr Mercer had typed a fixed value for the S&P 500 index in one of half a million lines of code, rather than getting the program to use the index's current value.

As Mr Zuckerman lucidly explains, such strategies have limitations. One is that their scale is limited. Medallion, which trades on short-term price signals, has never held more than \$10bn. The narrower the time frame, the larger the market inefficiencies and the greater the chance that an algorithm's choice of trade will succeed. But short-termism reduces capacity. Renaissance now has funds, open to outsiders, that trade over longer horizons. But returns have been less impressive.

Other firms now try to copy Renaissance's trades. Insiders say it tries to trade a pattern "to capacity", moving prices so that other firms cannot spot the same signals—rather as if a bargain-hunter, upon learning that a favourite shop was holding a sale, arrived early and bought up the entire stock so that no one else even realised the sale was on. Others on Wall Street often describe Renaissance as a money-printing machine, but Mr Zuckerman shows how it has had to keep adapting its model to stay ahead of the competition.

The book's only disappointment is that the man at the centre of it all features relatively little. That is perhaps unsurprising. Mr Simons studiously avoids publicity. After all, keeping its funds' strategies secret is a big part of Renaissance's success. Having solved the market, he is hardly about to give away his edge that easily. ■

Free exchange

Cost-benefit analyses offend against the notion that life is priceless

Their Gradgrindian logic is off-putting, but also mind-opening

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THE AIRLESS nooks under a man's foreskin are a cosy spot for microbes. These can inflame the surrounding skin, helping viruses such as HIV to spread. In places where the disease is common and treatment is patchy, removing foreskins can be a cost-effective way to fight it. In parts of Africa, the benefits of circumcising adolescents can outweigh the costs by about 10 to 1, according to the Copenhagen Consensus Centre (CCC), a think-tank. The ratio rises above 40 to 1 in the worst-hit countries.

Circumcision is not an obvious vote-winner. But policymakers cannot afford to be squeamish in the fight against one of history's greatest killers. Nor should they flinch at another off-putting, but essential, step in the war against poverty and disease: putting a dollar value on human life. Without one, it is impossible to compare efforts to vanquish HIV, malaria or diarrhoea with other outlays, such as building railways, electrifying villages, conserving mangroves or educating preschoolers. Quantifying the worth of all these good causes is the aim of a new CCC report evaluating 27 policies to promote African health and prosperity.

Such exercises often get a bad press because they offend against the deeply held feeling that life is priceless. This sacred principle is constantly breached in practice, of course: whenever a government sets a health-care budget or a commuter takes the small risk of a fatal car crash to earn money. But societies go to great lengths to hide the grisly process of pricing life from themselves. There is a "cost to costing", as Guido Calabresi and Philip Bobbitt put it in their classic book, "Tragic choices".

This cost is even harder to stomach when evaluating policies across borders. The same unflinching logic that allows economists to put a dollar figure on a life in a rich country obliges them to put a lower one on a life in a poor country. That breaches another sacred principle: that all lives are equal. How can economists justify their impiety?

They start their defence by pointing out that they do not impose their own valuation on life; rather, they infer one from the risks people are prepared to run in their own lives, for the sake of money or convenience. In America, government agencies often look at the extra pay workers demand to do dangerous jobs. Moreover, economists are usually valuing small changes in the risk to life: 1 in 1m, say. These marginal risks translate into a fatality only when aggregated over long periods or large populations. (Some euphemistic economists have tried dividing their results by 1m and reporting them as the value of a "micromort" rather than a life.) Unsurprisingly, the amount people are willing to pay to reduce the risks they face depends on their income. In America the department of health calculates that the value of a life is over \$9m. In Africa, where national income per person averages only 6% of that in America, people are willing to pay \$145,000 (at purchasing-power parity), the CCC reckons.

Although this Gradgrindian logic can be off-putting, it can also be mind-opening. Costing comes not just with costs, but also with benefits. It allows governments to compare policies that affect mortality with others that affect prosperity. Priorities can then be set on a sounder basis than gut instinct, sentimental appeal or the political clout of the people hurt or helped. That matters because some good causes are not nearly as good as others.

Extending a pan-African high-speed rail network to Mozambique, for example, yields only three cents-worth of benefits per dollar spent, the CCC calculates. And a lot of dollars would have to be spent: the upfront capital cost for a ten-nation network could amount to \$878bn. A more modest policy, such as building latrines in villages (and shaming people into using them rather than defecating in the open) can bring \$3.40-worth of benefits for every dollar spent, thanks to the diseases prevented and the time saved. But the gains decline to 60 cents if, as often happens, the new social norms fail to take hold and the latrines fall into disuse.

Circumcision does not quite make it into the CCC's top-ranked policies (see chart). The winners are those with a deafening bang for the buck. Vaccinating Nigerian infants against rotavirus can yield benefits worth a whopping \$126 per dollar spent, thanks to the reduced toll of diarrhoea. In countries where vaccines already cover more people (or incomes are lower), the ratio is less impressive. But in the median African country, it is still 44 to 1.

Superheroic assumptions

The gap between the good and the best projects is mind-bogglingly wide. One implication is that many efforts to improve Africans' lot risk being penny-wise but pound-foolish—fretting more about whether a policy is well implemented than whether it was well chosen. If this report's numbers are to be believed, a government could spend 10% of any additional infusion of aid on the best initiatives, squander the rest and still do more good than if it spent all the extra money on a middling policy.

The CCC's report is, by its own admission, a rough-and-ready effort, rushed out in three months before a big donor meeting in Addis Ababa in October. The individual policy evaluations, prepared by independent economists with varying enthusiasm for grand thought experiments, are not always wholly consistent with each other. Some of the proposals, such as self-help groups among women, would be hard for governments to conjure up or "purchase" off the shelf. Others, such as an effort to create a macroeconomic "demographic dividend" through family planning, are so grand that they would move prices and incomes, changing the cost-benefit calculus in unpredictable ways.

But the refinement of cost-benefit calculations is itself a costly activity. Where the need is great, the dangers are urgent and policymakers know enough to proceed, haste can be a virtue. And even heroic assumptions need not be villainous. Over 930,000 adults were newly infected with HIV last year in Africa, according to the UN's estimates. That is more than 2,500 people every day. Both life and time are precious. Chop, chop. ■

Additive manufacturing

Could you print a printing press?

Additive manufacturing

Giant 3D printers for making boats, bridges, buildings and rockets

Printing bigger and faster

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BOAT BUILDING is a long-winded and tedious business, even when what is going down the slipway is a small craft made from modern materials such as fibreglass, rather than something nailed together out of planks of wood. Construct a mould. Build up layers of resin and glass fibre inside that mould. Extract the completed structure and finish it. All told, it can take months. That, though, may soon change. For researchers at the University of Maine are now in the process of testing an 8-metre (25-foot) patrol boat that took just 72 hours to make from scratch (see picture overleaf). Their trick was to build the vessel using a giant 3D printer.

Since they appeared in commercial form in the 1990s, 3D printers have generally been employed in factories to make small things like prototype models, components of jet-engines and dental crowns. Now, a new generation of outside printers is arriving. These are capable of turning out much bigger objects than previously possible, and printing them faster.

To print the patrol boat, part of an American army project, the team in Maine linked up with Oak Ridge National Laboratory, in Tennessee, which helped develop the printing process, and Ingersoll Machine Tools, in Illinois, which built the printer itself. The university reckons that for boat building, a common trade in the state, large 3D printers of this sort will dramatically cut the cost and time required to produce new vessels.

Size matters

Broadly speaking, the biggest object that can be turned out by a 3D printer is determined by the size of the printer itself—and most printers are not much larger than a large domestic refrigerator. Over the years engineers have come up with various ways of scaling this up a bit, by doing things like mounting the printing mechanism on a piece of external scaffolding. But the result is often a slow and inaccurate device that turns out things which require a lot of expensive hand-finishing.

The University of Maine's printer overcomes the problem of scale by suspending the printer's business end—the nozzle that extrudes the ink—from a gantry. The ink is molten thermoplastic resin containing carbon fibres. Under the control of a computer the nozzle moves horizontally to build (as is true of any 3D-printing process) the desired object up layer by layer. After each layer is complete, the nozzle is raised slightly to deposit another on top of it until the object is finished.

And this can be done quickly. The Maine university printer is able to extrude material at a rate of 70kg (150lbs) an hour. At the moment it can make things up to 30 metres long, 7 metres wide and 3 metres high, but those dimensions could easily be increased by building a bigger gantry. The arm carrying the nozzle can also be fitted with processing equipment, such as an automated milling head to grind off any surface imperfections.

Having established the principle, the university is now looking to change the nature of the composite, to make the process more environmentally friendly. New England's forestry industry is a potential source of cellulose fibres that could be incorporated into the ink instead of carbon fibres. That would please Greens, because carbon fibres are usually made from oil-based materials. Habib Dagher, one of the project's leaders, says the aim is to print with a material containing 50% wood products. This would create a composite as strong and light as aluminium. And with further work the group hope to deposit that material at 230kg an hour. The researchers recently used cellulose fibres and a resin made from maize to print a mould for constructing the roof of a boat. To add to the greenery, this mould could be recycled and the material used again.

Just press "print"

Making moulds and production tools will be an important job for large-format 3D printing, says Craig Blue, director of energy efficiency at Oak Ridge. Tool-making is expensive for two reasons. It requires specialist skills. And the items produced tend to be one-offs or to be made in small numbers, so there are no economies of scale. For 3D printers, however, the cost of making one or many items is about the same.

There are other advantages. For example, an Oak Ridge system was used by contractors to print specially shaped moulds for concrete castings on the façade of a 45-storey building on the site of an old sugar refinery in Brooklyn, New York. Usually, such moulds are made out of wood by skilled carpenters and might last only three or four pourings, so builders get through a lot of them. But, Dr Blue says, the 3D-printed versions, composed of carbon-fibre-reinforced plastic, were able to survive at least 200 pourings.

Oak Ridge is also working on ways to print concrete structures directly. The practicalities of erecting massive 3D-printing gantries suggest printing skyscrapers and other large structures is probably best not done in one go, but in smaller sections. Printing precast concrete subunits in the controlled conditions of a factory and then assembling them on site can be better suited to making complex and artistic structures. This is the approach taken by Xu Weiguo and his colleagues at Tsinghua University in Beijing. They used a pair of robotic arms that extrude concrete mixed with polyethylene fibres to print precast sections which were then assembled into a 26-metre footbridge that spans a pond in an industrial park in Shanghai.

This structure is styled after the Anji Bridge, a stone arch built around 600AD across the Xiaohe river in Hebei province. The replica took 450 hours to print—leisurely by the standards of Maine’s boatyard, but rapid compared both with the ten years the original took and the pace at which even modern building sites tend to move. The researchers reckon production costs were two-thirds that of making a similar bridge from conventionally cast concrete sections.

Other forms of 3D printing are getting bigger and faster, too. Chad Mirkin and his colleagues at Northwestern University, Illinois, have come up with something they call high-area rapid printing (HARP). Their prototype can make things four metres tall, with a cross section of nearly a square metre. It does so by pulling these solid objects out of a shallow pool of liquid polymer.

The printer scales up an existing industrial process which starts with the liquid polymer being held in a container with a transparent base. An ultraviolet image of the layers to be built is projected through the base. This triggers a chemical reaction which cures a corresponding layer of polymer immediately above the base, so that it solidifies into the image of the projected light. The first layer attaches itself to a tool lowered into the liquid from above. As the tool is raised it lifts the object out of the pool to permit subsequent layers to be added from below.

The innovation which HARP brings is having a film of oil flow across the transparent base. This oil, the researchers say, behaves like “liquid Teflon”. It stops the polymer layers sticking to the base and also removes heat generated during curing. The result is that the printer can run much faster than was previously possible. It can, says Dr Mirkin, print in a couple of hours an object the size of an adult human being. A conventional 3D printer using this method would require a couple of days.

The HARP process allows a wide range of materials to be printed at large scale, including hundreds of different polymers, each one of which could be hard, soft or rubbery. It can also print resins that contain materials like silicon carbide, which can be processed into hard-wearing heat-resistant ceramics. Components made from all these materials might be used in products ranging from cars to aircraft to buildings. The system can also be scaled up further, adds Dr Mirkin. He has co-founded a company, Azul 3D, to commercialise the process and expects the first HARP printer to be on the market in about 18 months.

Heavy metal

The most difficult task 3D printing faces, though, is printing large metal objects. The main way of printing in metal is to melt successive layers of a metallic powder using a laser or an electron beam. To stop the powder oxidising and being contaminated by impurities in the air—or worse, exploding—that process needs to be carried out in a chamber filled with an inert gas. Scaling this procedure up is tricky and would be exceedingly expensive.

Yet metal printing is also escaping the box. One way it is doing so is by the deployment of large robots brandishing various types of MIG welders. “MIG” stands for metal-inert gas. MIG welders work by feeding a sacrificial electrode made of wire through the nozzle of a welding torch. The wire is connected at one end to a supply of electricity and at the other to an earthed workpiece. When the torch is held close to the workpiece an electric arc forms between its surface and the wire. The heat from the arc causes the wire and adjacent metal to melt and fuse together. During the process the torch blows an inert gas, such as argon, over the weld to protect it.

To turn a welding torch into a 3D printer the robot welds continuously over the same area, building up layer after layer of metal. This process is used by MX3D, a Dutch 3D-printing company, to build a variety of metal objects. Appropriately for the Netherlands, these include a lightweight bicycle printed in aluminium and a 12-metre long stainless-steel pedestrian bridge to cross a canal in Amsterdam.

Relativity Space, a firm in Los Angeles, is using large continuous-welding robots to build parts for space rockets (see picture at top of article). Each robot has an aluminium-alloy wire fed along its arm to the print head at its tip. The print head uses a high-temperature plasma arc to melt the wire and deposit it in layers whilst blowing an inert shielding gas around the arc.

3D-printed rockets, Relativity Space says, can be made faster and with fewer parts than conventional ones. The company has big ambitions. Its first rockets will be used to launch satellites but it hopes eventually to use its production system, which it calls Stargate, to print a rocket on the surface of Mars. When it comes to wondering what 3D printing is capable of, it seems, even the sky is not the limit. ■

Conservation

How to forge rhinoceros horn

A realistic knock-off may wreck the rhino-horn market

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RHINOCEROS HORNS are big business. Traditional Chinese medicine uses them to treat rheumatism and gout, even though they have no actual pharmaceutical properties beyond placebo. And Yemeni craftsmen carve them into dagger handles. A kilogram can thus command as much as \$60,000, so there is tremendous incentive for poachers to hunt the animals. Since almost all rhinoceros populations are endangered, several critically, this is a serious problem. Some conservationists therefore suggest that a way to reduce pressure on the animals might be to flood the market with fakes. This, they hope, would reduce the value of real horns and consequently the incentive to hunt rhinos.

That would require the fakes to be good. But Fritz Vollrath, a zoologist at Oxford University, reckons his skills as a forger are up to the challenge. As he writes in *Scientific Reports*, he and his colleagues from Fudan University, in Shanghai, have come up with a cheap and easy-to-make knock-off that is strikingly similar to the real thing.

The main ingredient of Dr Vollrath's forged horns is horsehair. Despite their differing appearances, horses and rhinos are reasonably closely related. Horses do not have horns, of course. But, technically, neither do rhinos. Unlike the structures that adorn cattle and bison, which have cores made of bone, the "horns" of rhinoceros are composed of hairs bound tightly together by a mixture of dead cells.

Examination under a microscope showed that hairs collected from horses' tails had similar dimensions and symmetry to those found in the horns of rhinos. They also shared a spongy core structure. Horse hairs had a scaly layer that was absent from those of the rhino, but the researchers were able to strip this away with a solution of lithium bromide.

The next task they tackled was making a suitable binding matrix. This, Dr Vollrath and his coauthor Mi Ruixin made from a fibrous protein-rich glue of the sort produced naturally by spiders and silkworms. They bundled the treated horse hairs as tightly as they could in a matrix of this glue, and then left the bundles in an oven to dry.

The result was a material that, with some polishing, looked like rhino horn. Specimens on the black market are, however, inspected carefully before sale, so for the false horns to be effective they would need to stand up to closer scrutiny than the naked eye. To this end, Dr Vollrath and Dr Mi decided to test their product in detail.

DNA analysis would certainly reveal fakes, but such analysis is complicated and therefore hard to do in the sorts of back rooms in which rhino-horn sales tend to take place. The forgeries passed other tests with flying colours, though.

First, fake and real horn looked the same when examined under a scanning electron microscope. Next, they behaved similarly when tested by a technique that compared their capacity to absorb heat. Finally, when stressed or strained and then relaxed regularly for long periods, to probe their underlying mechanical properties, the results for real and false horn were indistinguishable.

Whether using clandestine means to launch impeccable fakes onto the rhinoceros-horn market would truly reduce prices and sabotage demand remains to be tested. But it might. It is an old trick in warfare to flood the enemy with forged, worthless money. Something similar may yet help save the rhino. ■

High-tech rugby

Sensors, data and the self-policing rugby match

No more arguing about offside decisions and forward passes

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RUGBY UNION, it is often said, is a game for thugs that is played by gentlemen. “Played by lawyers” might be a more accurate dictum. The rules are famously complicated. Scrums—organised shoving matches between the two teams’ burliest members—are regarded as a dark art even by other players. Open, running play can be stopped and wound back for any number of arcane infringements. The recent Rugby World Cup competition, held in Japan, is regarded as a big success by those keen to boost the sport’s popularity. But it was marred by arguments about how to interpret complicated new rules forbidding dangerous shoulder charges and high tackles. (World Rugby, the game’s governing body, offers referees a handy flowchart to memorise, which provides for eight possible outcomes.)

All this is an irritant to players and referees, and a turn-off for viewers, who struggle to follow the action or work out why a particular decision was made. But a British firm called Sportable thinks it might be able to improve things, by wiring up rugby players—and rugby balls—with high-tech sensors.

Sportable was founded in 2014 by Dugald Macdonald and Peter Husemeyer, a pair of rugby-mad South Africans. It makes lightweight, sensor-stuffed garments that can be worn under a jersey and which measure impact forces in 80 separate places on a player’s body. The sensors are attached to transmitters that communicate with receivers at the edges of the playing field. By monitoring the time it takes for signals to arrive at different receivers, and applying a little mathematics, it is possible to work out where a player is on the pitch at any given moment, and how quickly he got there.

Such data, says Mr Macdonald, are attractive to teams looking for an edge over the competition. Previous efforts have relied on the Global Positioning System of satellites, which offers much lower accuracy. The firm has tested its technology with several professional clubs, including Saracens, the reigning champions in the English Premiership.

Where the fun starts, though, is when similar sensors are put into the ball. It can then, metaphorically, squawk if passed forward (which is illegal in rugby), and there will be no doubt, by comparing the positions of ball and player, when a player is offside. A smart ball will be able to monitor other rules, too. It was, for instance, tested successfully in a five-a-side version of the game called Rugby X, in which you are not allowed to kick the ball higher than ten metres. Since few referees are equipped with theodolites, enforcing this rule has been hard. Now it is easy.

Archaeology and development

A night at the museum

A night at the museum

Some building works threaten Turkish antiquities. Others save them

A hotel in Antakya shows how economic development and archaeology can be combined

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IT WAS 2009 and Antakya, a city in southern Turkey known in antiquity as Antioch, was thriving. Tourists were visiting it in record numbers. Trade with neighbouring Syria was booming. Sensing an opportunity, Necmi Asfuroglu, a local businessman, decided to build an upmarket hotel on land that he had owned since the 1990s. The plot was only a few hundred metres from the Grotto of St Peter, one of the world's oldest churches.

Before construction could start, a team of archaeologists was called in to examine the site. They excavated a broken amphora here, a statue there, and almost everywhere colourful mosaic pieces, spread across an area of some 17,000 square metres. By the time they had finished, they had unearthed parts of what had once been the heart of Antioch, one of the biggest cities of the Roman empire. The finds included a bathhouse, a huge marble-floored forum, thousands of artefacts and the world's largest floor mosaic.

With these discoveries, Mr Asfuroglu's plans went up in smoke. "We had to rethink everything," he says. Rather than walk away from the project, he asked an Istanbul architect, Emre Arolat, to design a structure that would accommodate both a modern hotel and an archaeological museum. Construction began in 2010, but stopped again for almost two years after workers came across another dazzling mosaic, depicting a winged Pegasus attended by three nymphs. It finally ended earlier this year.

Rooms with a view

For Mr Arolat, the challenge was to find an architectural language that merged what he calls the "sacred" of an archaeological site and the "profane" of a business venture. For inspiration, he says, he looked to a museum showcasing the medieval ruins of a Norwegian town, designed by Sverre Fehn, and the paths around the Acropolis devised by Dimitris Pikionis. The result is a hybrid that exemplifies how conservation and commerce can profitably coexist.

From the outside, the "museum hotel" that Mr Arolat designed resembles a steel and glass Jenga tower lying on its side and stacked with long rectangular blocks the size of shipping containers, each housing a hotel room. The interior is a vast open space criss-crossed by bridges and walkways that overlook the mosaics and ruins below. The whole structure rests on over 60 columns. One entrance serves the hotel, another the publicly accessible museum.

In Turkey, where the earth teems with the relics of dozens of ancient civilisations—and where over the past couple of decades the economy has been powered by a construction frenzy—development regularly takes priority over heritage. This hierarchy applies to small and mega-projects alike. A few years ago, when the discovery of three dozen Byzantine shipwrecks and a Neolithic settlement from the sixth millennium BC delayed the opening of a tunnel under the Bosphorus, Turkey's president, Recep Tayyip Erdogan, scolded the researchers who caused "three to five pots and pans" to hold up progress. More recently, flooding from a hydroelectric dam on the Tigris river has begun to submerge one of the longest continuously inhabited places on Earth, a 12,000-year-old town in Turkey's south-east.

Yet for all the cultural depredations that they sometimes entail, development projects can help save ancient treasures, too. Indeed, reckons Gul Pulhan, an archaeologist at the British Institute at Ankara, a research centre, such ventures are becoming the only way that archaeology can be done. Bureaucracy partly explains that paradox: foreign and local researchers who apply for excavation permits in Turkey have to jump through countless hoops. (The memory of European archaeologists who plundered Ottoman lands in the 18th and 19th centuries might be to blame for this rigmarole.) Another reason is money. "Across the world, there is less and less money available for archaeological work," says Ms Pulhan. Turkey is no exception.

The outlook changes, however, when a commercial or infrastructure scheme is at stake. "The bureaucracy is lighter and friendlier because they want to support those projects," Ms Pulhan says. Finance is also available more readily, since developers in Turkey and elsewhere are required by law to cover the costs of excavation (though frequently they shelve their plans to avoid the expense). In Antakya, a necropolis unearthed during previous construction eventually became a museum. In Istanbul a hotel project recently uncovered a Byzantine road. In London, meanwhile, Bloomberg's new headquarters incorporates a Roman temple, which is open to the public.

Bankrolling archaeology in this way is not an ideal solution. Excavation risks being rushed, because investors want to get on with the job. Archaeologists may be tempted or forced to cut corners. But improvisations like the museum hotel in

Antakya might be the best available approach. “Had it not been for that project, probably none of those things would have been unearthed,” says Ms Pulhan.

Seeing it through to the end was not easy. Soon after construction began, war broke out across the border in Syria, sending millions of refugees into Turkey and deterring tourism. The economy took a turn for the worse. Because of the excavations, the delays and the changes to the design, “we had to spend three times more than we planned,” recalls Mr Asfuroglu’s daughter, Sabiha Asfuroglu Abbasoglu, who oversaw the development. The final cost came to \$120m.

“We had to sell some of our other properties, but we never gave up,” Ms Abbasoglu says, standing next to the site’s centre-piece, a giant mosaic that seems to float above ground like a magic carpet, the effect of centuries of earthquakes and floods that caused some of its parts to rise and others to sink. Ms Abbasoglu says she hopes the outcome will be an example to others. The next developer who stumbles upon a few pots and pans might want to take note. ■

So it goes

A Kurt Vonnegut museum opens in Indianapolis

The wry author of "Slaughterhouse-Five" might have had mixed feelings about it

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ON INDIANA AVENUE in Indianapolis, Indiana stands the new Kurt Vonnegut Museum and Library. Its repetitious address chimes with its subject's views on geography and belonging. Vonnegut believed that a person should never forget where he came from. "All my jokes are Indianapolis," he once said. "All my attitudes are Indianapolis. My adenoids are Indianapolis. If I ever severed myself from Indianapolis, I would be out of business. What people like about me is Indianapolis." As much as he mocked the term—and those who used it—in his novel "Cat's Cradle" (1963), Vonnegut was a bona fide Hoosier.

Indianapolis is not known for its literature. It is overshadowed by America's coastal cities and its bigger neighbour on Lake Michigan. Vonnegut himself is associated with other places: Cape Cod, where he ran a car dealership; upstate New York, where he was a PR man for General Electric; Chicago, where he learned to be a journalist and failed to earn a master's degree.

Nevertheless, the Vonnegut museum belongs in Indianapolis, where he was born and grew up, says Julia Whitehead, its founder and boss. "There's a lack of arrogance here," she reckons, "a humility" that is distilled in his prose. The opening of the museum coincides with the 50th anniversary of the publication of Vonnegut's most famous novel, "Slaughterhouse-Five", which propelled him to fame. Half a century on, the book—and the author—still feel contemporary.

"Slaughterhouse-Five" was distinguished by its grim yet wildly imaginative portrayal of the second world war, which combines sci-fi motifs and a distorted chronology with moral clarity. The protagonist, Billy Pilgrim, is no Captain America. He trudges passively through Germany with his fellow prisoners of war wearing silver boots, a fur-collared coat many sizes too small, and a blue toga. Eventually, he decides to tell the world about his kidnap by aliens from the planet Tralfamadore. He is shot and killed soon afterwards by a fellow former captive. Experienced time-traveller that he is, Billy knew his death was coming. He had seen it many times.

The book transmuted the trauma Vonnegut himself suffered while witnessing the firebombing of Dresden as a prisoner of war in 1945. When the museum opened on November 9th, many of the first visitors were veterans; several said their experiences of Vietnam, Korea or Afghanistan were reflected in Billy's odyssey through time and space. There are no evil characters in his story, only ugly realities. When, towards the end, he is recuperating from a plane crash, his hospital bunk-mate, an air-force historian, mentions Dresden's destruction. He asks Billy to "pity the men who had to do it". Billy does.

What explains Vonnegut's enduring appeal to readers from other generations and backgrounds, who have never seen war first-hand? An unassuming candour that is native to the American Midwest, argues Ms Whitehead, a quality that disarms readers and forces them to confront eternal questions. His books are not simply criticisms of war; they are meditations on human nature and the meaning of life, wrapped up in zany plots and deadpan wit.

Still, the idea of a Vonnegut museum may seem odd. The author was a slouchy hero of the 1960s and 1970s counterculture: an anti-establishment, anti-war, satirical pessimist with a self-professed penchant for late-night drunken phone calls and Pall Mall cigarettes. He was full of contradictions. "When vivisected", he conceded, "the beliefs I have to defend...turn into bowls of undifferentiated mush." He listed them wryly: "I am a pacifist, I am an anarchist, I am a planetary citizen, and so on."

Together, though, the museum's collection of personal effects, rejection letters and art inspired by his writing attests to a set of steadfast beliefs, which continue to inspire readers. Vonnegut was an unyielding advocate for free speech and the arts. He wrote about the importance of community and family. He thought that everyone should be kind, goddammit, and that death was neither good nor bad, merely inevitable. Vonnegut himself died in 2007; humble as he was, says Ms Whitehead, "he might be a little bit embarrassed about a building with his name on it." ■

Diamond geezers

The glittering rise of the Cartiers

A history of the jewellery dynasty, by one of its scions

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The Cartiers. By Francesca Cartier Brickell. *Ballantine Books*; 656 pages; \$35.

BY THE AGE of 40, Louis-François Cartier had not only risen from poverty to open his own jewellery shop in Paris, he had seen it through revolution and a coup d'état, economic doldrums and a fire. Fiscal prudence and pragmatism were vital virtues, he considered, and he instilled them in his son and grandsons. He also imparted a less routine lesson: "Be very kind."

Francesca Cartier Brickell—Louis-François's great-great-great-granddaughter—has drawn on a forgotten cache of family correspondence to string together a dynamic group biography studded with design history and high-society dash. Its stars are the founder's grandsons, who, during the first half of the 20th century, transformed Maison Cartier into an international luxury brand with a clientele as glittering as its bejewelled wares, pulling off feats of social climbing as they went.

The brothers faced their own challenges, including two world wars, the Great Depression and an inexorable drift towards more casual fashions. Their strength lay in their closeness and complementary talents. Louis, the eldest, could be hot-headed: he once challenged a Rothschild baron to a duel over a snub. But his creativity fuelled innovations such as the use of platinum for more delicate settings and Cartier's famous "mystery clocks" (their hands appeared to hover in thin air as if "woven from moonbeams"). J.P. Morgan was a fan.

Pierre, meanwhile, had an innate grasp of markets and motivation. He allowed undecided clients to take jewels home with them for a few days, confident that they would find it hard to return them—even when the piece in question was the legendary Hope Diamond. In 1916 he traded a pearl necklace for the town house on Fifth Avenue that remains the company's American headquarters. The youngest brother, Jacques, who had yearned to become a Catholic priest, travelled to India and the Persian Gulf, expanding the firm's reach.

From gem-hunting expeditions to a heist, theirs is a dramatic saga. It is further enlivened by the jewel-encrusted maharajahs, mistresses and movie stars who paraded through the Cartier showrooms. For sheer zaniness, the most memorable is Alberto Santos-Dumont, the Brazilian coffee heir and aviation nut who held aerial dinner parties (waiters had to be agile), and bar-hopped across fin de siècle Paris in a tiny airship. He later inspired Louis-François to pioneer wristwatches—previously a feminine accessory—for men.

The jewels themselves are stupendous: gems the size of birds' eggs, rope upon rope of perfectly matched pearls, whimsical creations such as the panthers that became synonymous with the Duchess of Windsor. Ms Cartier Brickell is alert to their diverse connotations, from love letter to grovelling apology to glaring status symbol. In occupied France, a brooch depicting a caged bird sat as a protest statement in Cartier's flagship shop in Rue de la Paix. For all that, as many an exiled Romanov princess came to appreciate when forced to sell her purchases back to Cartier, a jewel is first and foremost a portable store of wealth.

What took three generations to build was quickly dismantled by a fourth. Cartier passed from the founding dynasty's hands in the 1960s and 1970s, but the jewellery created under the brothers still surfaces at royal weddings and auctions, where it often smashes reserve prices. (At Sotheby's in London in 2010 Wallis Simpson's panther bracelet became the world's most expensive bangle.) It is tempting to look back on the firm's heyday as a more graceful era; yet as Ms Cartier Brickell intimates, the only real difference between the excess-loving courtesan or scheming Gilded Age hostess who was the first owner of a Cartier bauble, and the reality-television star who snaps it up at auction, is an Instagram account.

Not that the author dwells on the comparison; discretion is among the ways in which her meticulous, elegantly wrought narrative bears the Cartier hallmark. She is also kind to her subjects, a quality as beneficial in storytelling as Louis-François found it to be in business. ■

A severe contest

Has The Economist made history, as well as reporting it?

In his new history of the newspaper, Alexander Zevin says it has

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Liberalism at Large: The World According to the Economist. By Alexander Zevin. Verso; 544 pages; \$34.95 and £25.

“I AM NOT a dedicated reader of *The Economist*,” confessed Roy Jenkins, a British statesman who died in 2003; it is “essentially a journal for foreigners”. Luckily for the newspaper, most people are foreigners. This may be one reason why it thrives at the age of 176, with a larger print circulation than it had before the internet.

According to Alexander Zevin, a historian at the City University of New York, *The Economist* is not merely a spectator of global affairs but an actor in them. It “shaped the very world its readers inhabit”, because of its links to politicians and financiers. “Liberalism at Large: The World According to the Economist” is based on his doctoral dissertation, which examined the weekly from its birth in 1843 to 1938. It supplements and updates Ruth Dudley Edwards’s more-or-less official account, “The Pursuit of Reason: The Economist 1843-1993”.

Yet the two authors tell very different tales. Ms Dudley Edwards identified *The Economist*’s creed as the belief that governments are more imperfect than markets. Mr Zevin is more oblique. He aims to present the annals of *The Economist* as “a history of liberalism”. The paper, he argues, has been guided by “the universal virtues of capital and...necessities of empire”. Since this brand of “liberal” thought has, he says, been the most consequential one, *The Economist*’s history is also that of “actually existing liberalism”—a nod to a Marxist term for the ugly realities of capitalism.

Ms Dudley Edwards thought *The Economist*’s main defects were “arrogance, priggishness, absence of doubt, frequent failures of imagination and too-clever-by-halfery”. Mr Zevin’s judgment is harsher. The result of following *The Economist*’s advice about the Irish famine of the 1840s was “on par with the better-known holocausts of the twentieth century”. A decade later, the paper was “just as ruthless with Indians as with the Irish or Chinese”. And after championing light regulation in the late 20th century, its response to the crash of 2008 was “breathhtakingly unrepentant”. Mr Zevin does not actually say the post-war *Economist* has been a market-fundamentalist lickspittle of Western intelligence agencies, but that is the politely expressed drift.

If *The Economist* has ever got anything right, readers don’t hear much about it. Nor is there much acknowledgment that markets ever work—for example, by delivering a seismic drop in global poverty since the 1980s. A parodic gibe at globalisation’s critics from an editorial in 2003 springs to mind: “Show us an economic miracle, and we will show you the failure of capitalism.”

Given its heartless perfidy, it is perhaps odd that *The Economist* is read by anyone outside the ermined ranks of “the aristocracy of finance”, to quote Marx’s description of its audience in 1852. Yet it is. And according to the Pew Research Centre, an American think-tank, its readership in its largest market skews left. Pew classifies 18% of American readers as mostly or consistently conservative, and 59% as mostly or consistently “liberal” (in the American sense, left-wing in the British one).

“Ideas have mattered most” to *The Economist*’s success, Mr Zevin believes. That is questionable. Engaging with its editorials is no doubt part of its appeal. Yet they account for only around 5% of articles; what most distinguishes the rest is their way of dealing with the news. Brevity abounds. So do charts. Dispatches from 21 foreign bureaus are, in a good week, put in a global and historical context. There are, in short, more facts per square inch than in perhaps any other weekend reading matter.

Mr Zevin is not the first to tie himself in knots trying to define liberalism. *The Economist* sometimes does the same. He is to be thanked for a critique of the paper which, though skewed, pays it the compliment of taking it very seriously. ■

Johnson

How to talk about unspeakable things

The vocabulary used to discuss sexual violence sometimes has drawbacks

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IT IS A cliché that three topics should stay off-limits in polite company: politics, religion and sex. But there are times for hard conversations, and the language used to talk about sex, and particularly sexual misdeeds, remains wrapped in a gauze of misdirection and euphemism that risks contributing to harm, even when intentions are good.

A recent case in Barcelona illustrates the power of language. Five men who gang-raped an unconscious 14-year-old girl were convicted of mere “sexual abuse”—not the graver “sexual assault”, because technically they had not used violence or intimidation, as required by the statute.

The furious protesters who turned out in Barcelona and other cities were not angry about the court’s leniency per se: the rapists received fairly long prison sentences. Rather they are demanding that the law be changed so that “sexual assault” reflects the absence of consent, rather than the use of force. In other words, they are asking politicians to redefine that term.

There is an irony in their protest. Demonstrators shouted “No es abuso, es violación” (it’s not abuse; it’s rape). But the Spanish word “violación” itself clearly displays its etymological link to “violence”, the lack of which was at the heart of the controversy. Other European languages also reflect a historical belief that rape is, by definition, violent: *Vergewaltigung* in German includes *Gewalt*, violence, for instance.

Or consider the English word. Coming from Latin *rapere*, its oldest sense involves neither sex nor bodily harm; it means to take something by force (as in the adjective, “rapacious”). This represents the attitude of many centuries in which rape was considered a property crime against a husband or father, robbing them of a woman’s virginity or chastity, which were the father’s to give away to a spouse. It was not something done to the woman herself.

Fortunately, feminists long ago succeeded in placing the woman’s experience at the heart of the matter. But “rape” is now such a powerful and painful word that English-speakers have developed a hazier vocabulary to talk about and around it instead. “Sexual assault” rose in prominence in the 1970s. Its adoption reflected the fact that there were many ways to commit, and experience, traumatic sexual violence; the kind that could rob a woman of her virginity was only one, and need not always be privileged over others. Numerous American states and Canada, for example, no longer have a crime called “rape” on the statute books, but rather varying degrees of sexual assault.

The breadth of the label “sexual assault” has its uses—for example, when statisticians want to aggregate different offences. It can convey the sense of violation that comes with all its manifestations. It gives women who have suffered different kinds of harms an umbrella of solidarity. Finally, victims who use “sexual assault” may themselves not want to be more specific.

But there are unintended consequences. Sexual assault is usually defined (for example, by American and British authorities) as sexual contact without consent. This means that the gamut runs widely, from groping to the most savage rapes. That can make it hard for those not directly involved to understand the gravity of individual cases. It might even let the most vicious rapists take advantage of a perception that perhaps they committed a lesser crime.

And the old words are often the most powerful. Activists have berated newspapers which reported that Jeffrey Epstein, a disgraced and now-dead financier, “cavorted” with “underage women”; he raped and trafficked teenage girls. Similarly, some want to ditch the term “child pornography”, since it refers to a heinous criminal enterprise, not consenting performances as in the adult kind. It sometimes seems people cannot talk about sexual violence except in terms adapted from consensual relations.

Now feminists are saying “we need to talk about rape”, as Deborah Cameron, a linguist, does in a recent post on her blog, “Language: a feminist guide”. Applying the right vocabulary to a crime will not curtail it, but the abstractions and legalese common in the media and politics can drain the task of urgency, by making the scourge seem less acute. Just as “murder” should not be routinely dressed up as “homicide”, nor “torture” consigned to the catch-all bin of “human-rights abuses”, so it is with the vocabulary of sexual abuse. It is hard to tackle a problem you are afraid to name.

American music

Playlists and politics

Playlists and politics

Why Obama-Trump swing voters like heavy metal

Americans' musical tastes mirror their political divides

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ONE REASON America has become so polarised is that its two big parties are increasingly seen to represent tribes as well as policies. One study by Lilliana Mason of the University of Maryland found that whether people said they were “liberal” was a better predictor of reluctance to marry a “conservative”—and vice versa—than actual views on political issues were. Another paper, by Douglas Ahler of Florida State University and Gaurav Sood, found that Americans wildly exaggerate the share of each party’s voters made up by certain groups. On average, poll respondents guessed that 32% of Democrats were gay and that 38% of Republicans earned over \$250,000. The real figures were 6% and 2%.

Ample evidence shows that the two sides differ on more than just taxes and guns. One viral quiz in 2014 predicted party loyalty using quirky data: Republicans were more likely than Democrats to prefer dogs to cats, neat desks to messy ones, action films to documentaries and Internet Explorer to Google Chrome. Using data on concert tickets from [Vivid Seats](#), an online market, we find that tastes in live music also mirror America’s political divide.

Regional variation in musical preferences is tied to demography. Hip-hop, a genre invented by urban blacks, is most popular in cities and in African-American areas. Sales for Latin styles like merengue are high in Hispanic counties in Florida and near the Mexican border. Country and folk, full of odes to wide-open spaces, prevail in plains and mountain states. Yet playlists also provide extra information about political beliefs, beyond their ability to stand in for race and population density.

The musical style that best predicts liberalism is hip-hop; for conservatism, it is country. In 2016 Donald Trump’s vote share in places where country out-sold hip-hop was 22 percentage points higher than in those where hip-hop was more popular. When combined into a statistical model, race, age, education and urbanisation account for only an 18-point gap. The remaining four points consist of factors reflected in music but not by demography.

It stands to reason that rural whites who like rap, a genre in which artists have railed against police brutality, are unusually left-wing. The politics of hard-rock acts like Metallica, AC/DC and Guns’n’Roses—who are particularly popular in places that voted for Barack Obama in 2012 but Mr Trump in 2016—are less clear. Politically active rockers tend to lean left. However, the best-selling rock groups are older than most pop stars or rappers, suiting many Trump voters’ nostalgia. And among Mr Trump’s often rowdy fans, their belligerent, anti-establishment music may strike a chord. ■

Sources: [Vivid Seats](#); US Census Bureau; MIT Elections and Data Science Lab; *The Economist*

Anwar Congo

The executioner's song

Indonesian mass murderer

Obituary: Anwar Congo died on October 25th

One of the perpetrators of the mass killings in Indonesia in 1965-68, he was 78

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THE FIRST time he tried to kill a man, he used a stinky durian fruit. It didn't work. Eventually, he came to the view that the most efficient method was garroting, and he was proud of how adept he became with the wire. It hadn't always been so.

He was born in Medan, a grimy industrial town in northern Sumatra that was home to Pancasila Youth, the main semi-official political gangster group that flourished as Indonesia's military dictatorship grew ever more powerful in the mid-1960s. An attempted coup by leftists in 1965 had given the army the excuse it needed to unleash an orgy of killing across the country. Anybody opposed to the army could be accused of being a communist. As America became enmeshed in the Vietnam war, and the fear of communism's possible domino effect across Asia took hold in the West, President Lyndon B. Johnson and his allies were happy to look away as more than a million alleged communists were tortured and killed, many of them Chinese Indonesians.

Known as *preman*, from the English words "free men", Pancasila's death squads, with their political connections and their can-do/will-do swagger, proved the ideal recruiting ground for a boy like Anwar Congo. He had dropped out of school at the age of 12 and spent much of his time selling bootleg cinema tickets with his friends outside Medan's main picture house. Dressed in a cowboy hat and a braided leather necktie complete with Texas star, he imagined himself as a skinny John Wayne, or, in a dark Panama and shades, as one of the mobster types in "Murder, Inc". It was all a bit of a lark, until someone tried to ban American films, and the gangsters' business slumped.

As he grew older, he moved from cinema tickets into petty smuggling and illegal gambling, and soon he came to the attention of men like Ibrahim Sinik, a newspaper publisher and paramilitary gang boss. Mr Sinik decided who got killed in Medan and who should merely be shaken down for money. He needed protection, and the young film buff was just the guy to provide it. He'd go to a musical film in the afternoon, then sidle across the street—high on show tunes—and hop up the stairs to the roof of Sinik's newspaper office where he changed into jeans or thick trousers and set to work. In the early days, he beat his victims to death. But there was so much blood. Even after it was cleaned up, it still stank. To avoid the mess, he switched to wire. With a wooden slat at either end, it was quick and clean. So many people were killed on that roof terrace, it was known as "the office of blood". He is reckoned to have murdered at least 1,000 people with his own hands, and soon had his own gang known as the Frog Squad.

When, at last, the killing came to an end in 1968, he moved into organising political muscle, clearing land for illegal logging. And there, in humanity's dark shadows, he might have remained, were it not for the fact that in 2005, exactly 40 years after the genocide began, he met an idealistic young American-born documentary-maker named Joshua Oppenheimer. Thus began the second life of Anwar Congo.

He was the 41st killer to be interviewed by Mr Oppenheimer. He gloated over how they used to crush their victims' necks with wooden staves, how they hanged them, strangled them, cut off their heads, ran them over with cars—all because they were allowed to. And he insisted that they never felt guilty, never got depressed, never had nightmares. Dressed in white slacks and a lime Hawaiian shirt the first day he met the film-makers, he led them up to Mr Sinik's roof and showed them in person, demonstrating on a friend, how he had garrotted his victims. And how afterwards, he would put on some good music, drink a little booze, smoke a little marijuana. Stepping lightly across the roof, he crooned: "Cha, cha, cha." By now in his 60s and missing several teeth, he clacked his dentures when the camera began rolling.

At home, he served the film-maker sweet tea. While the two men discussed what film they might make, he taught a young boy how to care for his pet duckling. He roped in his Pancasila friends to re-enact what they had done. The directors gave them carte blanche. The gangsters sketched out interrogations and how they beat women and burned down villages. Aided by a fat sidekick in drag, with bright lipstick and lime eyeshadow, they even re-enacted a beheading, and how afterwards they ate the victim's liver.

In the evening they watched the day's rushes. Sometimes, wearing a burgundy Panama hat, he played one of the interrogators: "It must be fun being a communist. You fuck other people's wives." Or he'd play the film-maker, sitting high up in the cameraman's chair, wholly consumed with panning across a scene of make-believe.

And then, one day, he cast himself as a victim. He sat in the chair on the far side of the interrogator's wooden desk. His shiny charcoal suit turned dark as he sweated at being questioned. After the wire was slipped around his neck, his right hand began to shake. "Did the people I tortured feel the way I do here?" he asked. "I felt all the terror possess my body."

“No,” Mr Oppenheimer quietly replied. “You’re making a film. They knew they were going to be murdered.”

Punishment, not justice

“The Act of Killing”, or *Jagal* as it was called in Indonesian, meaning “Butcher”, was tipped to win an Oscar when it was released in 2012. It became the country’s most viewed film after the producers made it available free online, and Indonesians began talking about the years of living dangerously in a way they never had before.

As for Mr Congo, he evaded justice, but not punishment. The garrotting stayed with him. It was, he said, one of the easiest ways of taking a human life. When, on the final day of the shoot that had lasted five years, he was filmed returning, in a mustard double-breasted suit and lemony shirt, to the roof of Mr Sinik’s office, where so many men had died by his hand, he sniffed the night air and then he gulped. Turning away, he retched and retched—until he could retch no longer. ■

Economic data, commodities and markets

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