The Economist

JUNE 16TH-22ND 2018

How strongmen subvert democracy

Financial clean-up in China

Canada's vulnerable economy

Making concrete with carrots

Kim Jong Won





Hong Kong... India.... Indonesia..... Japan.

Talland... Vielnam...Rs1,20NT\$27

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Daily analysis and opinion to supplement the print edition, plus audio and video, and a daily chart Economist.com

E-mail: newsletters and mobile edition Economist.com/email

Print edition: available online by 7pm London time each Thursday Economist.com/printedition

Audio edition: available online to download each Friday Economist.com/audioedition

The **Economist**

Volume 427 Number 9096

Published since September 1843

to take part in "a severe contest between intelligence, which presses forward, and an unworthy, timid ignorance obstructing

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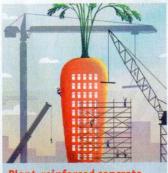




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The world this week

Politics



Donald Trump and Kim Jong Un, North Korea's dictator, held a summit in Singapore. Mr Kim promised "complete denuclearisation" in exchange for American security guarantees. Mr Trump called it "a very great moment in the history of the world". Critics noted that North Korea has always broken such promises in the past.

South Korea's ruling party won provincial and municipal elections by a landslide, capturing 14 of 17 governorships. It marked the first time that liberal candidates had ever won in several south-eastern provinces. The popularity of Moon Jae-in, the president, has been buoved by the recent detente with North Korea.

Hundreds of people stormed government offices in Vietnam to protest against a draft law that would let foreigners hold leases of up to 99 years on property. They fear that Chinese investors will buy lots of land. The law's adoption has been delayed.

Taiwan's president attended the opening of a new building for the American Institute in Taiwan, America's unofficial embassy in the country. China, which bristles at anything that even hints at diplomatic recognition of Taiwan, had warned America not to send a senior official. America dispatched a lowly undersecretary of state.

A court in Hong Kong sentenced a prominent activist, Edward Leung, to six years in prison for his role in a riot in 2016 triggered by officials' efforts to remove street stalls selling traditional snacks. Mr Leung had angered the Chinese government by supporting independence for Hong Kong.

Lorry drivers staged strikes in several Chinese cities. They were protesting against fuel costs and competition from app-based haulage services.

Reversal of fortune

With a tiny majority in Parliament and faced with a rebellion from a handful of Tory MPS opposed to Brexit, the British government promised MPS what Remainers hope will be a "meaningful" vote on whether to approve whatever deal emerges from talks with the EU. This week's machinations make it more likely that the United Kingdom will end up with a "soft" Brexit.

The governments of Macedonia and Greece agreed on a new name for the former. which is seated at the UN as the Former Yugoslav Republic of Macedonia. The country's new name. Northern Macedonia, is designed to appease Greek sensitivities about cultural appropriation.



The Aquarius, a rescue vessel carrying more than 600 migrants from north Africa, was refused access to Italian ports by Matteo Salvini, Italy's new nationalist interior minister. After two days of impasse, Spain, under its new Socialist government, stepped forward to offer the ship a berth in Valencia. Italy did accept migrants on an Italianflagged ship.

Austria's chancellor. Sebastian Kurz, proposed the creation of what he called an "axis of willing" among Germany, Italy and Austria to curb illegal migration. Critics wondered whether the word "axis" had quite the right historical ring to it.

Scales of justice

Jean-Pierre Bemba, a former Congolese warlord, had his conviction for crimes against humanity overturned on appeal. He still awaits sentence on a separate charge of bribing witnesses, but the International Criminal Court ordered his release. His supporters want him to return to the Democratic Republic of Congo and run for president.

An American soldier was killed and four wounded in Somalia after they were attacked by al-Shabab, a jihadist group. America is mulling whether to scale back its military operations in Africa.

A coalition led by Saudi Arabia and the United Arab Emirates attacked Hodeida. the main entry port for aid in Yemen, in a bid to wrest it from the Houthis, a group of Shia rebels who chased the government out of Sana'a, the capital, in 2015. The UN had warned that fighting over the port could disrupt the supply of food to Yemeni cities, putting millions at risk of hunger.

A fire destroyed part of a depot in Iraq where ballot papers were being stored after a disputed election in May. Iraq's parliament had ordered a recount of the ballots amid allegations of vote-rigging.

Use it or lose it

America's Supreme Court sided with Ohio, which had removed the name of a man who did not vote regularly from the electoral register. Federal law forbids the automatic removal of lax voters from the rolls, but states have a duty to keep their information up to date. The court found that a notice of intent to remove the man from the register did not violate the rules.

Mark Sanford, a Republican congressman from South Carolina who has often criticised Donald Trump, was

defeated in a primary election. Mr Sanford previously made headlines in 2009 when, as governor, he disappeared for a week. It turned out he was having an affair. The official explanation for his absence, that he was "hiking the Appalachians", became a popular euphemism for infidelity.

The non-believer

The G7 summit in Canada was the most rancorous in the club's history. America clashed with its allies over climate change and trade. Donald Trump refused to sign the final communiqué, accusing Justin Trudeau, the Canadian prime minister, of making "false statements". "There's a special place in hell" for those who act in bad faith, said Mr Trump's trade adviser, Peter Navarro.

America extradited Ricardo Martinelli, a former president of Panama, to his home country to face trial on charges of corruption and wiretapping. He is accused of using public money to spy on 150 rivals.

Pope Francis accepted the resignation of three Chilean bishops. They include Juan Barros, who was accused of covering up sexual abuse of children by a priest.



On the eve of the 2018 World Cup, the 2026 tournament was awarded jointly to the United States, Canada and Mexico. The members of FIFA, football's governing body, ignored recent tensions among the three countries in choosing their joint bid over Morocco's. Mr Trump will no longer be president by the time the tournament is played. It is also possible that the North American Free-Trade Agreement will have been dissolved by then.

The Economist June 16th 2018

Kim Jong Won

The master negotiator appears to have no clue how to haggle with North Korea www.ninsanganastella sein and montane



As A television spectacle, it was irresistible. The star of "The Apprentice" striding commandingly along the red carpet, reaching out his hand, ready to strike the deal of a lifetime. And grasping it, Kim Jong Un, the leader of the world's most re-

pressive dictatorship, his Mao suit, hairstyle and grievances imported directly from the 1950s, who just nine months before had promised to "tame the mentally deranged us dotard with fire". In the end, fire did not prove necessary: a suspension of weapons-testing and an invitation to a summit was all it took. President Donald Trump said it was an "honour" to meet Mr Kim, who duly promised "complete denuclearisation" in exchange for security guarantees. It was, Mr Trump said at a press conference, "a very great moment in the history of the world".

To the extent history is playing any part in all this, it is in its tendency to repeat itself. North Korea has promised disarmament again and again over the past 30 years, only to renege each time after pocketing generous inducements. If the flimsy agreement Messrs Trump and Kim signed in Singapore is to turn out differently, as Mr Trump insists it will, America must be clear-eyed and exacting in the detailed nuclear regime that it negotiates with the North. Alas, so far Mr Trump seems more eager to play the talks for ratings—threatening not only a meaningful deal, but also America's position in Asia.

Singapore canoodles

One unquestionably good thing did come out of this week's summit. Talking is much better than the belligerent exchange that went before it (see Briefing). War appears to be off the table, and for that the world can be grateful.

The other good thing is that glimmer of hope. You can never completely dismiss the idea that Mr Kim does mean to change direction. Still in his 30s (like much about him and his country, his exact age is a mystery), he may be daunted by the bleak prospect of a lifetime of nuclear brinkmanship. For his regime to endure, he needs enough wealth to buy conventional weapons and pacify the urban middle class, which in recent years has begun to enjoy some meagre luxuries. He may also be uncomfortable about his country's reliance on China for everything from oil and remittances to the plane that flew him to Singapore. If Mr Kim sees nuclear weapons partly as bargaining chips, his investment in warheads and the missiles needed to carry them as far as the United States makes this his moment of maximum leverage. Now would be the time to talk.

Mr Trump was right to test this possibility. The potential prize includes not just the step back from war talk, but the removal of a persistent threat to Asia and, lately, the United States. Also, given China's disputes with America over trade and security, North Korea could become a template for how the two superpowers can work together, to everyone's benefit.

Measured by such aspirations, however, Singapore was a disappointment. Mr Trump boasts of the tremendous achievement of simply being there; in reality the North wanted talks

all along. For Mr Kim, the offer of a meeting as equals with the sitting president of the United States—external validation of his godlike status at home—was an unexpected and long-desired windfall. He could have used the summit as a signal that he means to overturn the North's record of deceit. But, despite supposedly intense pre-Singapore negotiations, this week's agreement contains no binding North Korean commitments.

"Complete denuclearisation" sounds good, but the North did not set out a timetable. It may, as in the past, take the term to refer to the withdrawal of American troops from South Korea, or even to when America itself disarms, as it is in theory bound to do under the Nuclear Non-Proliferation Treaty (NPT)—which, incidentally, the North has abandoned. Nor did the agreement mention verification. Mr Trump's team insists this will be intrusive, but Mr Kim's "proof" of destroying test sites has so far involved letting a few journalists watch at a safe distance. Verification must involve inspectors with the right to visit any of North Korea's hundreds of facilities, civilian and military, at short notice. Mr Kim's willingness to accept such a regime is the real test of whether the agreement is serious.

Worryingly, Mr Trump seems determined to be the deal's salesman. At the press conference, as he gushed about Mr Kim's qualities, he announced that America was unwisely cancelling military exercises with South Korea while talks with the North were under way. As the South's partly conscript army needs frequent training to remain battle-ready, that was a big concession for which he appears to have received nothing. Mr Trump says that sanctions on the North will remain until the process of disarmament is irreversible. He also acknowledges that China is already enforcing the sanctions less diligently (it is also arguing for further loosening)-"but that's OK". Mr Kim must know that Mr Trump will struggle to get other countries to tighten the screws on the North again. Mr Trump has a lot riding on the North Korean deal, but just as he abandoned a good Iranian nuclear agreement, so must he be willing to abandon a bad North Korean one, or Mr Kim will string him along. That is the test of Mr Trump's seriousness.

Put the Nobel on hold

America's Asian allies are rightly worried that Mr Trump will sacrifice their security for the sake of a dead-end deal. He failed to warn South Korea and Japan that he was cancelling the military exercises (using a North Korean phrase, he called them "provocative" war games). He talked about America's Asian commitments as an expensive burden in the same breath as saying that he wanted to pull his troops home. He raised the fairness of trade, as if security was contingent. Dealing with North Korea is a chance for Mr Trump to strengthen the NPT and pax Americana. He looks more likely to weaken both, risking regional arms races and even war.

Mr Kim has gone from pariah to statesman in six months. His regime's abhorrent treatment of its own people is largely forgotten. His repeated violations of treaties and UN Security Council resolutions have been partly forgiven. Striking any sort of deal with such a figure is unpleasant. Striking a bad one would be a moral and diplomatic disaster.

Politics

How democracy dies

Lessons from the rise of strongmen in weak states



S DEMOCRACY in trouble? Nearly 30 years after Francis Fukuyama declared the end of history and the triumph of liberal democracy, this question is no longer outlandish. America, long a beacon of democracy, has a president who tramples on its

norms. Xi Jinping is steering authoritarian China towards oneman rule. And across the emerging world, strongmen stride tall. Turkey's president, Recep Tayyip Erdogan, having locked up or purged more than 200,000 Turks for political reasons, will probably prevail in elections that start on June 24th and assume sultan-like powers. Nicaragua's regime is pulling out protesters' toenails. Vladimir Putin is about to reap a huge propaganda coup from the World Cup.

Indices of the health of democracy show alarming deterioration since the financial crisis of 2007-08. One published by The Economist Intelligence Unit, our sister firm, has 89 countries regressing in 2017, compared with only 27 improving.

Some surveys find that less than a third of young Americans think it is "essential" to live in a democracy. Small wonder that this year has seen a boom in books with frightening titles such as "How Democracy Ends" and "The People vs. Democracy".

This pessimism should be put in context. It is a recent reversal after remarkable progress in the second half of the 20th century. In 1941 there were only a dozen democracies; by 2000 only eight countries had never held an election. A broad poll of 38 countries shows that typically four out of five people prefer to live in a democracy. And not all threats to pluralism are of the same order. In mature democracies such as America, strong checks and balances constrain even the most powerhungry president. In immature democracies, such institutions are weaker, so a strongman can undermine them quickly, often without much fuss. That is why the most worrying deterioration, going by both the number of countries and the speed of retreat, is in the fragile, young democracies of the emerging world. From Venezuela to Hungary, these reversals reveal striking similarities (see International section). That suggests reasons for optimism-as well as lessons for the West.

How to undermine a democracy

Put crudely, newish democracies are typically dismantled in four stages. First comes a genuine popular grievance with the status quo and, often, with the liberal elites who are in charge. Hungarians were buffeted by the financial crisis and then terrified by hordes of Syrian refugees passing through en route to Germany. Turkey's pious Muslim majority felt sidelined by secular elites. Second, would-be strongmen identify enemies for angry voters to blame. Mr Putin talks of a Western conspiracy to humiliate Russia. President Nicolás Maduro blames America for Venezuela's troubles; Hungary's prime minister, Viktor Orban, blames George Soros for his country's. Third, having won power by exploiting fear or discontent, strongmen chisel away at a free press, an impartial justice system and other institutions that form the "liberal" part of liberal democra-

cy-all in the name of thwarting the enemies of the people. They accuse honest judges of malfeasance and replace them with stooges, or unleash tax inspectors on independent television stations and force their owners to sell.

This is the stage of "illiberal democracy", where individual rights and the rule of law are undermined, but strongmen can still pretend to be democrats since they win free-ish elections. Eventually, in stage four, the erosion of liberal institutions leads to the death of democracy in all but name. Neutral election monitors are muzzled; opposition candidates locked up; districts gerrymandered; constitutions altered; and, in extreme cases, legislatures emasculated.

The battle is not always to the strongman

This process is neither inevitable nor incurable. India has had a vibrant democracy for 70 years; Botswana for more than 50. Deteriorations can be stopped and even reversed. In recent weeks Malaysians voted out Najib Razak and the UMNO party that had ruled since independence; protesters in Armenia broke a decade of one-party rule. Last December South Africans forced out President Jacob Zuma, a would-be strongman who let his cronies loot the state. Even Turkey is not doomed: opposition parties have a good chance of winning control of parliament this month.

It is hard to say which democracies are at risk. Economic stagnation and surges in immigration are often precursors of trouble. But they are neither necessary nor sufficient. Few would have predicted that democracy would totter in Poland, a booming economy with few immigrants that has benefited hugely from European Union membership. More important than the underlying conditions is the degree to which would-be autocrats learn from each other-how to spread fake news, squash pesky journalists and play the populist card. Their weaknesses are remarkably similar, too. From Malaysia to South Africa, strongmen have eventually been felled by popular revulsion at the scale of their corruption.

These similarities hold some lessons. The main one is that institutions matter. Western democracy-promotion has often focused on the quality of elections. In fact, independent judges and noisy journalists are democracy's first line of defence. Donors and NGOs should redouble their efforts to support the rule of law and a free press, though autocrats will inevitably accuse those whom they help of being foreign agents. The second is that the reversals have been driven by opportunistic strongmen rather than the voters' embrace of illiberal ideology. That ultimately makes these regimes brittle. When autocrats steal too brazenly, no censor can stop people from knowing-and sometimes booting them out. The last, more uncomfortable lesson is that the example set by mature democracies matters. America's powerful institutions will constrain President Donald Trump at home. But they do not stop his contempt for democratic norms-the serial lying, the cosying with dictators—from giving cover to would-be autocrats.

Reports of the death of democracy are greatly exaggerated. But the least-bad system of government ever devised is in trouble. It needs defenders.

Briefing The Singapore summit

Enough to make a Rodman cry

BEIJING AND SINGAPORE

Kim Jong Un did better than Donald Trump at their strange meeting

THINK of it", the president enjoined reporters, "from a real-estate perspective." When presented with images of North Korean artillery firing fusillade after fusillade into the sea, he said at his somewhat surreal post-summit press conference, he had seen a place that would "make a great condo. You...could have the best hotels in the world right there." Trump Towers, Wonsan-a North Korean city that

passes as a resort-suddenly seemed a tantalising possibility, perhaps with the North Korean Open being played on an adjacent links. As his supporters have noted, President Donald Trump brings a unique viewpoint to foreign policy.

It was Mr Trump's background as a reality TV performer, though, rather than his property-development chops, that set the tone for his summit meeting with Kim Jong Un, the leader of North Korea, in Singapore on June 12th. With 2,500 reporters attending, the summit was quite the TV spectacular. It even had a tearful CNN appearance by one of Mr Trump's "Apprentice" participants, Dennis Rodman, a former basketball player who counts himself a friend to both leaders. There was a bizarre "trailer" showing the sunlit uplands of North Korea's peaceful future as a coming attraction. At one point Mr Kim said to Mr Trump that it would seem to many like something out of "a fantasy".

Not unaccustomed to living in a fantasy,

Mr Kim took to this limelight in a very effective way. He made use of his time on the stage with both domestic North Korean and international audiences very much in mind. Mr Kim runs a mafia state with the most brutal secret policemen and the ugliest human-rights record on Earth. An estimated 120,000 North Koreans, in some cases whole families, rot in labour camps. Countless children are malnourished and mentally stunted. Since he came to power in 2011, Mr Kim has cracked down savagely on those trying to escape to China. He has executed an uncle and assassinated a halfbrother (in whose favoured Singapore hotel, the St Regis, Mr Kim stayed the night before the summit).

When "poison pen" is not a metaphor Mr Kim ought to be at The Hague. Yet in Singapore, the dictator, who also has ten UN Security Council resolutions arrayed against him, was the toast of the town as he waved at the crowds down by the Marina Bay casino and posed for a selfie with the Singaporean foreign minister. By coming across as warm, jovial and eminently reasonable, the capo has morphed into something respectable, even statesmanlike. There is talk of him starring at the UN General Assembly in New York in the autumn and Mr Trump says he will be welcome in the White House.

Chunks of all this, carefully edited, were beamed back to North Korea as evidence of the leader's global stature; the first picture state media had ever shown of Mr Trump was of him shaking hands with Mr Kim, his partner in peace. Only occasionally was it possible to glimpse Mr Kim's mafia-state paranoia in Singapore, as when a gloved aide inspected and wiped the pen with which he was to sign the joint document with Mr Trump.

The document itself was striking-and, >>





Development in India

Infant nutrition v debt relief

Several states are experimenting with a new way of setting priorities

IN A country as big and poor as India, the scale of human need can seem daunting. Yet the immensity of the mountain is not the sole problem. Just as tricky is finding the best angle of approach. Alas, the votehungry politicians, stodgy bureaucrats, dreamy professors and opportunistic middlemen who often end up steering policy do not always succeed in making the most of scarce resources.

Take the town of Panipat in Haryana, a state that abuts the national capital, Delhi. Last year auditors from the central government found that it had dedicated 60% of its budget from Beti Bachao, a national scheme meant to correct gender imbalances by fostering and educating girls, to erecting a "themed gate" at the entrance to the town that proclaims Panipat's bold commitment to this worthy goal. Such wasteful boasting is not unique. Since today's national government took office in 2014 it has, by official count, spent some \$643m (twice what the previous one did) on publicising its own programmes and achievements in TV spots, billboards and full-page newspaper ads that typically feature the smiling image of the prime minister, Narendra Modi.

In other respects, however, Mr Modi's government has worked hard to put public money to better use. A decade ago a government survey calculated that only 16% of funding for a national food-distribution programme actually reached the intended beneficiaries. Police found that between 2005 and 2007 in Sitapur, a district in the state of Uttar Pradesh, 100% of the money was stolen. Leakage from such programmes is now reckoned to have fallen to around 30%, and in some states to less than 10%. Mr Modi's strong personal backing for social programmes has ensured impressive progress for many, such as a national campaign to eradicate "open defecation".

But what if, instead of promoting favoured schemes, Indian governments instead challenged experts to propose the cleverest interventions they could think of? What if they then got economists to calculate, as objectively and scientifically as possible, their likely cost-benefit ratios?

TB or not TB

India, Rajasthan, estimated benefits of different projects*, rupees

Project Per rupee		
Engaging private-sector care for TB	179.4	
E-markets for farmers	65.0	
Training mothers in nutrition and hygiene	43.0	
Digitisation of land records	26.0	
Prevention of cardiovascular disease	23.0	
Extra food for poor mothers and children	7.0	
Expanding the rural ambulance network	3.3	
Supporting startup incubators	1.8	
Cervical cancer screening and treatment	1.4	
Farm-loan waivers	0.8	
	*Over varied time periods	

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And what if they then compared these numbers and adopted policies based on which projects promised the biggest bang for the buck?

This, in essence, is the approach that the governments of two of India's 36 states and territories are now considering. The model being used in Andhra Pradesh and Rajasthan, with funding from the Tata Trusts, a charity, was developed by a Danish economist, Bjorn Lomborg, and tested in countries such as Haiti and Bangladesh. Over the past year Mr Lomborg's team has consulted hundreds of experts and interested groups, picked some 79 policies for consideration and commissioned dozens of economists to analyse them. If the pilot schemes work well, Tata Trusts would like to extend the process across the country.

A game of tag

In some respects the results from Rajasthan are predictable. Yes, it does pay in the long run to improve infrastructure, though the predicted payback of 1.2 rupees for every rupee spent on urban sewage treatment does not look especially compelling. No, the hugely expensive loan waivers that several Indian states have recently offered angry farmers are not a good idea, yielding benefits of less than one rupee for every rupee spent (see chart).

Some potential returns are astonishing, however. According to a paper that was presented by Nimalan Arinaminpathy, an epidemiologist at Imperial College, London, clever interventions to combat tuberculosis (TB), a disease that kills 30,000 people a year in Rajasthan alone, could bring a return of up to 179 rupees for every rupee of government spending. This is not because India makes no efforts to deal with TB. The trouble is that the government's hitherto highly successful anti-tuberculosis campaign, the world's largest such effort, is struggling to reach the country's >>



Nation shall preach Xi unto nation

China is spending billions on beefing up its foreign-language news media

NTHE 26th floor of an iconic glass skyscraper, nicknamed the "Trousers", in Beijing's main business district, half a dozen casually dressed 20-somethings gather in a rainbow-coloured lounge, chatting away on ergonomic chairs. The office has the vibe of a hip tech startup. In fact, it is the headquarters of the country's foreign-language television service, which rebranded itself in 2016 as China Global Television Network (CGTN). The young staff are Chinese who have studied abroad and are proficient in one of the network's five languages-English, French, Spanish, Arabic and Russian. CGTN is at the forefront of China's increasingly vigorous and lavishly funded efforts to spread its message abroad. Xi Jinping, the president, has told the station to "tell China stories well".

CGTN-a consolidation of the foreignlanguage operations of CCTV, the state broadcaster-is secretive about its budget but open about its ambitions to compete with global broadcasters such as CNN and the BBC. In November it plans to open a new broadcasting centre in Chiswick, a wealthy suburb of London. It will complement the two others the station inherited from CCTV in Washington and Nairobi, each of which has around 150 reporters. BuzzFeed News, citing an e-mail sent by a local recruiter, reported this week that the new centre is planning to hire more than 350 London-based journalists over the next 18 months. Salaries on offer are "well over" average for journalists in the city, the news site said, quoting someone headhunted for a job. (CGTN's choice of name may help, too: when they were called CCTV, China's overseas television operations suffered from association with surveillance equipment.)

To ensure its grip on the message put out by its domestic and international broadcasting services, including CGTN, the government consolidated them in March into a single media group known as Voice of China (its name in English perhaps consciously echoing that of the American government's broadcasting service, Voice of America). The reorganisation allows CGTN and the other services to retain their separate identities under a combined management controlled by the Communist Party's Publicity Department, a powerful agency in charge of propaganda and media censorship. Voice of China's missions include "overall planning of important propaganda reports". Writing in a state-owned newspaper, Jia Wenshan of Renmin University in Beijing said the group would try to "combat fake news, give the lie to the 'China threat' propaganda meme and fight the Western media's hegemony".

Chinese officials have long complained that Western media dominate global discourse and harbour prejudice against China. A decade ago, hit by a barrage of critical coverage in the wake of anti-Chinese unrest in Tibet, the government decided to

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step up its efforts to seize "discourse power" from the West. According to the South China Morning Post, a newspaper in Hong Kong, it allocated 45bn yuan (\$6.6bn) for the purpose. The money has been poured into expanding "flagship" foreign-language media, in print and online as well as on air. In 2009 China Daily, then the country's only English-language daily, launched an edition tailored for the American market. In the same year Global Times, a tabloid owned by the party's main mouthpiece, People's Daily, began publishing its own English-language daily, offering somewhat racier fare than that of China Daily, while still avoiding criticism of the party. (Global Times has been producing an American edition since 2013, with the help of its own printing-press there.)

All China, all the time

Over the past decade, Xinhua, China's main news agency, which publishes in numerous languages, has set up more foreign bureaus than any rival, boosting its tally to 180 from just over 110. In 2010 it set up a global television channel in English, called CNC World. China Radio International. part of Voice of China, now broadcasts in 65 languages, up from 43 a decade ago. These outfits have also been building up their online presence in English and other languages, making extensive use of social media that are blocked in China such as Facebook, Instagram and Twitter. In 2012 China Tibet Online, an official website, began publishing in French and German.

Results have been mixed. In 2009, when China began beefing up its foreignlanguage news media, Pew Research Cen-

Award: On June 13th Rosie Blau, our former China correspondent who is now editor of our culture and lifestyle magazine, 1843, won an award for excellence from the Society of Publishers in Asia for her reporting in this section on Chinese culture.



Voting (1)

Multiple choice

PORTLAND, MAINE

Ranked-choice voting, used statewide for the first time ever in Maine, could provide a solution to America's dysfunctionally partisan politics

LIBERAL," said Robert Frost, an American poet, "is a man too broadminded to take his own side in a guarrel." An ad released less than a week before election day by Mark Eves and Betsy Sweet (pictured above), opponents in Maine's Democratic gubernatorial primary, seemed a paragon of Frostian liberalism. Ms Sweet, who resembles a slightly less caffeinated Elizabeth Warren, urged her supporters to vote for Mr Eves; while Mr Eves asked his supporters to back Ms Sweet. On election day the two gripped and grinned together outside an elementary school in Portland's lovely West End.

In fact, their alliance was not wet leftism; it was a strategic gambit. On June 12th Maine conducted the first-ever statewide election using ranked-choice voting (RCV), in which voters rank the entire field rather than just voting for a single candidate. Trailing in the polls, Ms Sweet and Mr Eves figured they could boost their chances by campaigning for second-place votes.

RCV has long been a darling of political scientists. But Maine's experiment should interest anyone frustrated by America's cripplingly partisan politics. RCV may be unable to force liberals and conservatives to like each other, but it could at least blunt the electoral effects of hyperpartisanship.

RCV is not new. Australia has used it for a century, Malta and Ireland for slightly less. Some Oscar winners are chosen by RCV, as are prizewinners at the World Science Fiction Convention. Several American cities-including Minneapolis, San Francisco, Portland (Maine) and Santa Fehave recently adopted it, too. In an RCV election, voters rank the field by preference, from first to last (though they can always choose to vote for just one candidate). If one candidate gathers a majority of first-place votes when all votes are in, he wins. If not, the candidate with the smallest number of first-choice votes is eliminated, and his secondary, tertiary and so forth votes are redistributed. That process continues until one candidate eventually has a

How long that takes varies. San Francisco's mayoral race took place on June 5th but the winner was not confirmed until June 13th. By contrast, three years ago Ethan Strimling won a majority of votes outright in Portland, Maine's mayoral race. As The Economist went to press, Sean Moody appeared to have won the Republican governor's race outright, while Janet Mills held a steady lead on the Democratic side.

RCV boosters say it changes campaigns and elections in three laudable ways. First, it encourages voter turnout. A study of 79 elections in 26 American cities found that RCV was associated with a 10% increase in turnout compared with non-RCV primary and run-off elections, and San Francisco's race had the highest primary turnout in years. Voters turned off by the front-runners have less incentive to stay home. They can give their first-choice vote to their favourite candidate, even if he might be a

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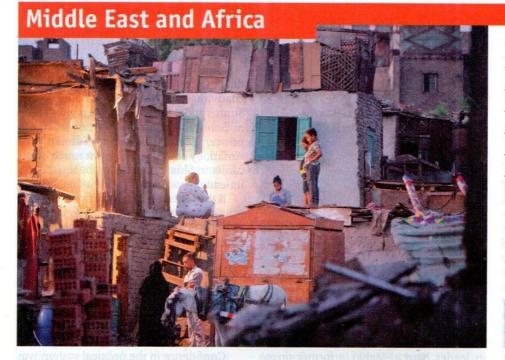
quixotic choice, while allocating their other choices strategically.

Second, it shifts incentives away from negative campaigning-because candidates are trying not just to turn out their base, but also to win as many second- and third-choice votes as possible-and towards alliance-building, as Mr Eves and Ms Sweet demonstrate. Finally, boosters argue that introducing RCV limits the efficacy, and therefore the amount, of money spent by single-issue campaign groups, because they often finance negative ads.

In theory, RCV elections will more often be won by candidates broadly acceptable to most voters. Kyle Bailey and Cara Mc-Cormick, who have led Maine's RCV campaign, said they have staged dozens of mock RCV beer elections in microbreweries (which abound in Maine: winter here is long, cold and dark) to show voters how the process works. Mr Bailey said the loudest backers would often argue for oyster stout, or some other niche beer style, but the most votes would inevitably accrue to a "middle-of-the-road IPA"-which perhaps had fewer or less ardent fans, but which everyone could drink.

Opponents argue that RCV is too complicated-and indeed, in Maine, people's enthusiasm for RCV sometimes outstrips their ability to explain it. (Though on election day Maine's secretary of state, whose office released a detailed video explaining RCV, said he had received no complaints about ballot complexity.) RCV support in the state has split along party lines: Republicans largely opposed it, while the RCV campaign's watch party offered six types of Kombucha (fermented tea) on tap.

Paul LePage, the abrasive and bombastic outgoing governor, won two elections without a majority, thanks to liberals splitting their vote. Perhaps Maine Republicans doubt their ability to appeal to a majority of voters, and instead must discourage >>



Housing in the Middle East

Villas and slums

AMMAN AND CAIRO

Expensive homes are easy to find in the Arab world. Flats for the poor, not so much

THE billboards almost seem to taunt motorists crawling through traffic below. They hawk luxurious town houses and villas with sumptuous pools in compounds that sound like Californian suburbs: Palm Hills, Eastown, Allegria. "Welcome to the greener side of life," oozes one sign. But this is not California. It is Cairo, Egypt's chaotic and crowded capital. The road is lined with endless rows of ramshackle redbrick buildings. Most are unfinished, their innards exposed, steel bars poking from the rooftops. The greener side of life is many kilometres away.

The drive along Cairo's ring road is one sign of a paradoxical problem. Egypt has both a building boom and a housing shortage. At the high end, business is roaring. Developers are building tens of thousands of homes in upscale compounds, drawing young families with the promise of an escape from the city. But for most Egyptians these homes are out of reach. Villas can start at 10m Egyptian pounds (\$560,000)about 200 years' pay at average wages.

Poor Egyptians, and even the shrinking middle class, have few options. Egypt has a shortage of 3m homes. Its existing stock is overcrowded. The average Egyptian family has 3.3 children. More than 2m families, 9% of the total, live in one- or two-room homes. Almost 1m Cairenes live in slums the government considers unsafe, without basic amenities like sewerage and water. Thousands of people live in cemeteries.

The problem is not limited to Egypt. In

Jordan 26% of houses have at least two people per room, and 5% have at least four. Even in the oil-rich Gulf states, young people struggle to find affordable housing. The crisis has deep social consequences. Young people cancel engagements and postpone marriage because they cannot afford to make a home together. Crime is a growing problem in Cairo's teeming slums.

Market manipulators

For decades Arabs have migrated from rural areas to cities in search of work. Cairo's population has nearly doubled since 1996, to 23m. Amman, the capital of Jordan, has grown even faster, partly owing to an influx of Iraqi and Syrian refugees. Add to that Arab baby-boomers (mostly born in the 1990s and 2000s), who will soon look to buy homes and start families. Egypt alone has 50m people under the age of 20. It will need to build up to 600,000 new homes each year just to keep pace.

The market ought to provide them, but governments distort it. Corruption and mismanagement of land is a problem. Builders must cope with burdensome regulations and antiquated zoning laws. One study in Jordan found that they pay a third of a project's value in taxes and fees. Rent controls also make it unprofitable to build in many places. Some Cairenes pay less for monthly rent than for a hookah at their neighbourhood café.

Large parts of Amman are zoned for high-end units, even though the market

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wants cheaper ones. The government has also set the minimum size for new apartments at 110 square metres (1,184 square feet), bigger than most people want or can afford. As a result, property transactions in Jordan were down by about 14% last year, even though developers have built 1bn dinars (\$1.4bn) worth of unsold apartments since 2015, says Zuhair al-Omari, the head of the developers' association.

Elsewhere, though, predictions of a luxury-housing glut have not yet come to fruition. The difficulty and expense of building mean that the only profitable portion of the Egyptian housing market is at the top (hence all those billboards). Demand has, so far, kept pace with supply. Richer Egyptians see property as the only reliable repository of value.

The Egyptian government has tried to fill the gap at the bottom of the market. In 2014 it unveiled a \$40bn scheme with Arabtec, an Emirati contractor, to build 1m low-income units. But the project stalled the following year for lack of funds. Frustrated Egyptians have taken matters into their own hands. The towers lining Cairo's ring road are known as ashwaiat, the plural of "random". They were built illegally, without permits or safety inspections. Families invested their life's savings to secure a plot of land and start construction, then added a floor or two whenever they had the cash. But most cannot afford to finish. Of Egypt's 43m homes, 9m are vacant, and half of those are incomplete.

Many of these problems converge in Boulag, a district of 40,000 people in central Cairo. Residents have lived there for generations, often in dismal single-room flats with shared bathrooms and kitchens. But the prices are unbeatable. With rent controls, some pay as little as ten pounds per month. Now the government wants them out. They live on some of Cairo's most valuable land, just back from the Nile >>



Central Europe

In bad Oder

Germany's troubled relations with the Visegrad states show the limits to its power

ERMANY has long considered itself a J bridge between east and west Europe. Karel Schwarzenberg, a Czech former foreign minister, recalls Helmut Kohl telling him in the 1990s that, having tethered itself to the West during the cold war, his country now had to tether itself to its east, lest it "slide about like loose ballast on a ship". Kohl's point was that a Germany alienated from its eastern neighbours, particularly the "Visegrad" (v4) states of Poland, the Czech Republic, Slovakia and Hungary, would destabilise the European vessel.

But its relations with the v4 have recently hit a low. The picture is not uniform. From Berlin, the Czech Republic and Slovakia look friendlier than Hungary or, particularly, Poland. But there is a sense that the region is drifting away. "People here are seeing that they have taken the Visegrad for granted for too long," says Milan Nic of the German Council on Foreign Relations.

Germany's size is part of the problem. The v4 felt (literally) marginalised by Angela Merkel's decision to keep her country's borders open to refugees at the peak of the crisis in 2015. Without consultation, it seemed to them, the chancellor had turned them into transit corridors for undesirable migrants drawn by the promise of a cushy life in Germany. Their irritation turned to anger when she later urged every EU state to admit a quota of refugees.

Its economic might, too, is daunting.

Germany's trade and investment flows with the v4 are greater than with China. That inspires both gratitude and resentment. Recently, the Czech and Slovak prime ministers berated German firms for paying local staff less than those in their German plants. A widely shared analysis by Thomas Piketty, a French economist, shows outflows of profits from such foreign investments in the v4 outweighing EU transfers to the region.

Residual memories of the second world war make it "very easy for authoritarian [v4] governments to exploit anti-Germanism", notes Thorsten Benner of the Global Public Policy Institute. That is clearest in



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Poland, whose populist Law and Justice (pis) leadership has reopened the issue of war reparations, passed a "Holocaust law" banning references to Polish complicity in Nazi atrocities and issued an advertising campaign promoting the term "German death camps" (referring to Nazi death camps in Poland). Viktor Orban, Hungary's nationalist prime minister (pictured, with Mrs Merkel, has endorsed the construction of a "memorial to the victims of the German invasion" in central Budapest. Berlin does not always help its own cause. On May 4th construction began on Nordstream 2, a gas pipeline between Russia and Germany which bypasses Poland and inflames historical fears of being caught between the two powers on either side.

Yet the tensions along its eastern border also demonstrate the limits to German power. For all its economic heft, Berlin has not been able to get the v4 states to take in a few hundred refugees. These days, Mrs Merkel talks more about controlling Europe's outer borders than about managing the burden of refugees who cross themthe v4's order of priorities.

Meanwhile, Germany's leaders feel unable to do much about the march of authoritarianism within the EU, which is most acute in Poland and Hungary. "Wagging our finger at Warsaw will only make things worse," sighs an official in Berlin, talking of Polish attacks on the independent press and judiciary. Similar considerations explain Mrs Merkel's marked reluctance to condemn Mr Orban's assaults on NGOs and his flirtation with anti-Semitism. Her Christian Democrats are a bulwark against calls to expel his Fidesz party from the European People's Party, the umbrella group of the continent's centre-right.

One explanation for this German caution is the growing presence in the v4 of ri-



The politics of Brexit

Problems postponed

Theresa May concedes just enough to avoid parliamentary defeats. But she is being driven towards a softer version of Brexit

If POLITICS is the art of survival, Theresa May is proving adept atit. A week ago she adroitly averted resignations by Brexit ministers. This week the prime minister persuaded MPS to reject all amendments made by the Lords to the EU withdrawal bill. Yet her habit of putting off tough decisions and offering concessions only at the last minute has risks. It is also steering her away from a hard Brexit.

The week's most dramatic scenes were in the Commons. Mrs May faced down an amendment designed to make Britain join a customs union with the EU, by deferring the issue until the trade and customs bills return next month. But until late on June 12th she was heading for defeat on an amendment by a Tory MP, Dominic Grieve, to give Parliament the right to decide what happens if the Commons rejects the eventual Brexit deal. Mr Grieve's aim is to stop the government presenting MPS with Hobson's choice: take the deal, or get Brexit with no deal at all.

David Davis, the Brexit secretary, huffed about an unconstitutional bid to usurp the government's treaty-making role. Yet the day began badly for the government, with the unexpected resignation of a junior justice minister, Philip Lee, who said he wanted to fight Brexit from the backbenches. And party whips soon realised they had to give ground to avoid defeat. The proceedings took on a surreal air as the solicitorgeneral, Robert Buckland, repeatedly inter-

rupted Mr Grieve's speech to offer concessions. In the end Mrs May promised Tory rebels she would accept the thrust of the Grieve amendment when the bill returns to the Lords. Brexiteers' subsequent efforts to dilute this offer are unlikely to succeed.

Even so, some critics said the rebels had been sold a pup because they were too scared to challenge Mrs May's leadership. They certainly do not want to oust her. Indeed, part of the prime minister's appeal to her backbenchers rests on her weakness. In effect, she is warning that, if she softens her Brexit policy too much, she might be replaced by a hard Brexiteer such as Boris Johnson, the foreign secretary.

Yet both Parliament and Mrs May are stronger than they seem. The concession to Mr Grieve matters because it makes a nodeal Brexit, already tricky for lack of preparation, all but impossible, and a soft Brexit far more likely. Cross-party co-operation in a hung Parliament has become a key factor. Anna Soubry, a Tory rebel, and Chuka Umunna, a Labour pro-European, have teamed up. Mr Grieve is close to Labour's shadow Brexit secretary, Sir Keir Starmer, who worked with him as director of public prosecutions when Mr Grieve served as attorney-general.

Playing down the no-deal threat is also driving Mrs May, as a matter of logic, in the direction of a softer Brexit. So is a growing chorus from businesses worried about leaving the customs union and the EU's

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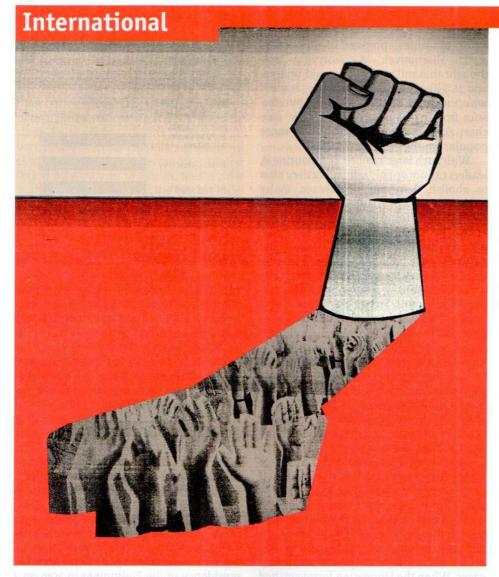
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single market. This week the president of the CBI business lobby, Paul Drechsler, warned that sections of manufacturing might become "extinct". As if on cue, Britain's biggest carmaker, JLR, announced that it was moving all production of its Land Rover Discovery model from Birmingham to Slovakia.

Above all looms Northern Ireland. Even as Westminster was agonising over Mr Grieve's amendment, Brussels was debating something else altogether: the "backstop" solution to avoid a hard border in Ireland. Although Mrs May insists that this fallback option will not be needed, she has put forward a plan for a backstop under which all of Britain, not just Northern Ireland, would be in a customs union with the EU. And she has faced down Mr Davis's demand that it be made temporary by saying only that it is "expected" not to last beyond December 2021. That is far from being a time limit.

Her delayed white paper on Brexit, now due in early July, will tout a technological solution to avoid a hard border, known as "maximum facilitation". Yet because the EU doubts this will ever work, it is now treating the backstop as the most likely outcome. It wants to add regulatory alignment on top, to avoid border checks, and it is unhappy with Mrs May's suggestion to apply the backstop to the whole country, because this could give Britain full access to the single market without all its obligations. But Brussels welcomes Mrs May's acceptance that, at least for some years, Britain should stay closely tied to the EU. That Brexiteers are up in arms about this (see Bagehot) is just another bonus for Brussels. >>

Correction: In last week's story on Brexit and security, we wrongly attributed an estimate of the cost of an alternative to the Galileo satellite system of £3bn-5bn to Bleddyn Bowen, an academic at Leicester University. In fact the estimate was made by officials.



Geopolitics Assissbench listoretimore

Democracy's retreat

BUDAPEST, DIYARBAKIR, KUALA LUMPUR, LUSAKA AND MANAGUA

After decades of triumph, democracy is losing ground. Why?

IN A glass case at the Diyarbakir Bar Association are a striped shirt, dark coat and coiled belt. They belonged to the former chairman, Tahir Elci, a lawyer who was murdered in 2015 amid clashes between the Turkish army and Kurdish separatists. He was standing by the Four-Legged Minaret, a 500-year-old landmark in the ancient city, calling for peace. Someone shot him in the head. No one knows who killed him. The government blames Kurdish terrorists. Many Kurds blame the government. After Elci's death, the army pounded the rebelheld part of Diyarbakir to rubble. The debris, including body parts, was heaped onto trucks and dumped by a river. Locals are scared to talk about any of this.

Barely a decade ago, Turkey was a budding democracy and aspired to join the European Union. Now it is galloping towards dictatorship. In 2016 army officers

tried to mount a coup, putting tanks in the streets, bombing parliament and nearly assassinating the president, Recep Tayyip Erdogan. It was quickly scotched. Mr Erdogan launched a purge. Over 200,000 people, mostly suspected members of the Gulen movement-the Islamist sect said to have led the failed putsch-were jailed or sacked. Anyone could be arrested for having attended a Gulenist school, holding an account at a Gulen-owned bank, or even possessing \$1 bills, which the government says were a mark of Gulenism.

Millions of Turks are now terrified of their president. However, plenty admire him for protecting them from the Gulenists. Adem, an estate agent in Istanbul, congratulates Mr Erdogan for "cleaning away the enemies within"-echoing a government slogan. He says, of the purge's victims: "They've been arrested because

they've done something wrong." He adds: "In America if you steal state secrets they put you in the electric chair, don't they?"

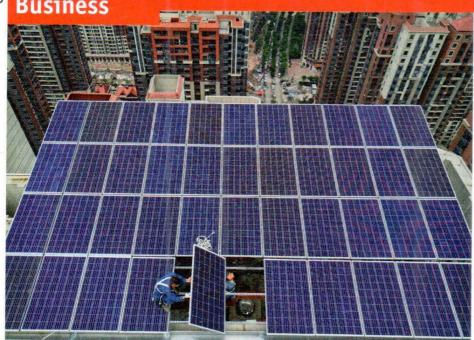
At an election on June 24th, Mr Erdogan is expected to consolidate his power. Despite double-digit inflation and a tottering currency (see Europe section), he is likely to win re-election (though his party may struggle). And his office will become much more powerful, thanks to a constitutional change he pushed through last year. As "executive" president, he will be able to issue decrees with the force of law and pack the judiciary with loyalists.

Turkey exemplifies a dismal trend. The world has grown far more democratic since the second world war. In 1941 there were only a dozen democracies; by 2000 only eight states had never held a serious election. But since the financial crisis of 2007-08, democracy has regressed.

Most watchdogs concur. The latest survey by Freedom House, an American think-tank, is called "Democracy in Crisis". In 2017, for the 12th consecutive year, countries that suffered democratic setbacks outnumbered those that registered gains, it says (see chart 1 on next page). According to the Democracy Index from The Economist Intelligence Unit, a sister company of The Economist, 89 countries regressed in 2017; only 27 improved. The latest "Transformation Index" from the Bertelsmann Foundation, another think-tank, which looks at emerging economies, finds that the "quality of democracy...has fallen to its lowest level in 12 years." What these indices measure is not simply democracy (ie, rule by the people), but liberal democracy (ie, with a freely elected government that also respects individual and minority rights, the rule of law and independent institutions).

This distinction is important. In "The People v Democracy", Yascha Mounk of Harvard University stresses that liberalism and democracy are separable. Voters often want things that are democratic but not liberal, in the most basic sense, which has nothing to do with left- or right-wing policies. For example, they may elect a government that promises to censor speech they dislike, or back a referendum that would curtail the rights of an unpopular minority.

At the same time, plenty of liberal institutions are undemocratic. Unelected judges can often overrule elected politicians, for example. Liberals see this as an essential constraint on the government's power. Even the people's chosen representatives must be subject to the law. In a liberal democracy, power is dispersed. Politicians are not only accountable to voters but also kept in line by feisty courts, journalists and pressure groups. A loyal opposition recognises the government as legitimate, but decries many of its actions and seeks to replace it at the next election. A clear boundary exists between the ruling >>



Solar energy

On the solarcoaster

After a clampdown in China, could the global photovoltaic industry survive without subsidies?

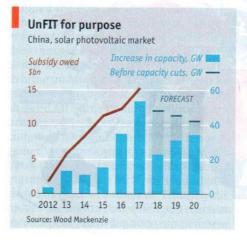
ALITTLE over a decade ago, when Jinko-Solar, a Shanghai-based company, entered the solar business, it was such a novice that when it visited international trade fairs, all it had was a bare table and a board with its name scribbled on it. But it also had luck, a technological edge and lots of public money on its side.

The industry globally was riding high on subsidies. Generous feed-in-tariffs (FITS), financial incentives for installing solar, made Germany the world's largest solar market by around 2010. Germans turned to China for cheap sources of crystalline silicon solar panels, not least because subsidised land and loans enabled China's fledgling manufacturers to undercut European and American competitors.

When European solar subsidies slumped during the euro crisis, the Chinese government once again stepped in to support its renewable-energy champions. It offered fits to slather the remote west of China with solar farms. By 2013 China had eclipsed Germany as the world's largest solar-panel market; last year it installed 53 gigawatts (Gw), almost five times as much as in America, now the next-biggest market. Jinko became the world's largest provider of solar panels in 2016, shipping almost 10GW globally last year. Six of the top ten producers are Chinese.

These ups and downs are known globally as the "solarcoaster": just as subsidies can quickly build the market up, their withdrawal can tear it down. On June 1st this happened with a particularly heart-stopping lurch when Chinese authorities, with almost no notice, strictly limited new solar installations that qualified for FITS, blitzing the shares of Jinko and some of its peers in China, as well as of First Solar, one of America's biggest solar suppliers.

Analysts reckon that at least 20GW of solar projects expected to be built in China this year will now be scrapped (see chart). As demand wilts, they predict, Chinese panel prices will fall by at least a third. Benjamin Attia of Wood Mackenzie, an energy consultancy, says that, depending on how quickly the price falls encourage an uptake of solar in new markets, this could be the first year since 2000 that the global solar



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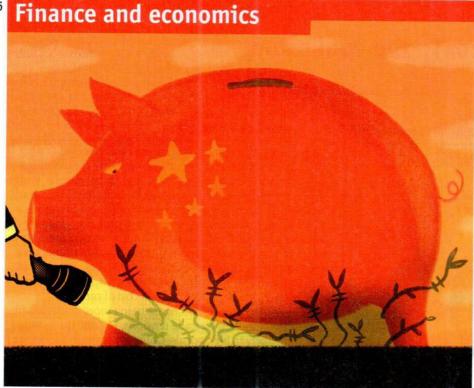
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industry stalls. "In the short term, the policy change will rack the China market with angst," says an industry insider there.

The clampdown comes at a time when the solar industry globally is increasingly able to compete toe-to-toe on price with more conventional sources of power generation, such as coal, natural gas and nuclear. Countries in Europe, including Britain and Spain, and elsewhere too, have drastically slashed FITS. It all raises an important and tricky question: is this the end of the line for solar subsidies?

China provides an illustration of the likely answer, which is that FITS may be disappearing but other subsidy-lite alternatives are taking their place. Analysts say China's decision to scrap FITS follows a rise to about \$15bn last year in the deficit in the subsidy fund earmarked for developers; plugging the gap would have strained public finances. As a result of this shortfall, solar developers were not getting the subsidies they were owed. As one industry insider puts it, everyone loves subsidies—but only when they get paid.

Paolo Frankl of the International Energy Agency, a global forecaster, notes that China had recently begun to experiment, via a programme called "Top runner", with an alternative to FITS that is gaining popularity internationally. This is a reverse auction in which solar developers that offer to build and run projects most cheaply win. The price they bid is what they will charge in long-term power-purchase agreements (PPAS) for the electricity they generate. Such reverse-auction PPAs have produced startlingly low bids in sunny places from Arizona and Nevada to Mexico, Abu Dhabi and India. In China recent PPAs sharply undercut the FITS, he says. One even beat coal-fired power. Hence China's aim to encourage more of such auctions to make solar, on the face of it, subsidy-free. The bene-



Chinese finance

Light on the shadows

SHANGHAI

Stricter oversight of shadow banking, prompted by fears of financial instability, begins to bite

THE teller at ICBC, China's (and the world's) biggest bank, ushers a new, well-heeled customer into a private room. It is not for VIP treatment but a stern warning. The customer wants to invest in products offering higher returns than a basic savings account. The teller fixes a camera on her and reels off a series of questions. Are you aware that prices can go down as well as up? Do you understand that the bank does not guarantee this product? Only when the customer has been recorded saying "yes" does she get her wish.

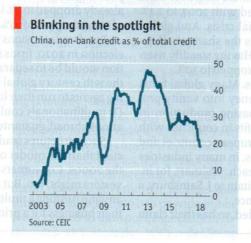
Some complain that these videotaped agreements, now mandatory at Chinese banks selling similar investment products, feel like interrogations. But for the financial system, they are a step away from the precipice. Banks have used such transactions to channel cash into off-balance-sheet loans, serving riskier corners of the economy. Firms with little lending expertise have also muscled into the same space.

The catch-all phrase to describe this is shadow banking. It is a global phenomenon, partly a response to stricter regulation after the financial crisis of 2007-08. But China is at the extreme end. Its shadowbanking sector is vast, fuelled by a big rise in corporate debt. Estimates of its assets run from 50trn to 90trn yuan (\$7.8trn-14trn); the middle of that range is more than three-quarters of GDP. Its growth has

been dizzying, from almost nil ten years ago. Its structure is byzantine. And its pathologies have been worsened by the belief that if anything goes wrong, the government will cover the losses. The International Monetary Fund has repeatedly highlighted shadow banking as one of the big dangers to the Chinese economy.

The best disinfectant

Yet in the past year shadow banking's seemingly unstoppable progress has all but stopped. Last year the 30trn yuan market for "wealth-management products" (WMPS), a main conduit for savings to fund banks' off-balance-sheet loans, stalled for



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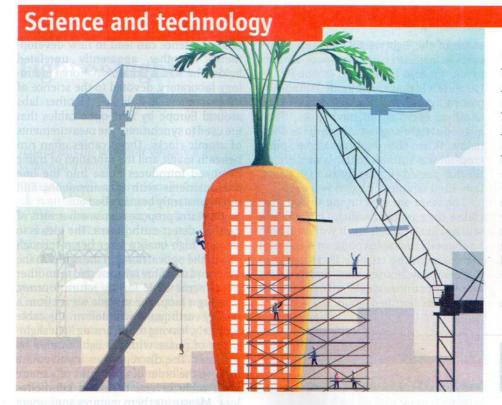
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the first time in its decade of existence. Insurers had also been sucked in, selling short-term, high-yield products. But in 2017 sales of these fell by about half. Between 2010 and 2017 non-banks issued a third of all new credit; in the first four months of 2018 their share plunged (see chart).

The reason is much tighter regulation, ordained from the top of the political system by the economic officials around President Xi Jinping—notably Liu He, a vice-premier. A government adviser says their appraisal of the past few years is that the economy has performed well, and that all the big dangers have been outgrowths of the financial system. He pointed to three incidents that shook Mr Liu and his colleagues: the stockmarket boom and bust of 2015; the ensuing gush of capital outflows; and the reckless investments of companies such as Anbang, a disgraced insurer.

So since 2016 the focus of economic policy has been to reduce financial risks. This is not the first time these have been targeted, but Zhang Licong, an analyst with CITIC Securities, a broker, says that this campaign has been the hardest-hitting yet. The rise in corporate debt has slowed. Banks have recognised more of their bad loans, writing off about 1.5trn yuan per year. The government has merged regulatory bodies to strengthen its oversight. And it has clamped down on shadow banking.

Officials began slowly, requiring banks to video customers acknowledging the risks of WMPs, a way of forestalling disputes if they go bad. They soon turned to peer-to-peer (P2P) lending, a small, unruly segment of shadow banking. The authorities capped loan sizes and required lenders to go into partnership with custodian banks. The number of online P2P platforms has dropped from 3,433 at the end of



Materials science

Industrial plants

How to make buildings, cars and aircraft from materials based on natural fibres

TSING carrots to create concrete, turning wood into plastic, or even compressing it into a "super wood" that is as light and strong as titanium might sound like a series of almost Frankensteinish experiments. Yet all three are among the latest examples of employing natural fibres from plants as eco-friendly additives or alternatives to man-made materials.

Materials-science researchers are finding that plant fibres can add durability and strength to substances already used in the construction of buildings and in goods that range from toys and furniture to cars and aircraft. A big bonus is that, because plants lock up carbon in their structure, using their fibres to make things should mean less carbon dioxide is emitted. The production of concrete alone represents some 5% of man-made global CO2 emissions, and making 1kg of plastic from oil produces 6kg of the greenhouse gas.

Start with the carrots. These are being investigated by Mohamed Saafi at Lancaster University, in England. Dr Saafi and his colleagues do not use whole carrots, but rather what they call "nanoplatelets" that have been extracted from carrots discarded by supermarkets or as waste from foodprocessing factories. Sugar-beet peelings are also a useful source of nanoplatelets. The researchers are working with Cellu-Comp, a British firm that produces such

platelets for industrial applications, including as an additive that helps toughen the surface of paint as it dries.

Each platelet is only a few millionths of a metre across. It consists of a sheet of stiff cellulose fibres. Although the fibres are minute, they are strong. By combining platelets with other materials a powerful composite can be produced. Dr Saafi is mixing the platelets into cement, which is made by burning limestone and clay together at high temperature. (The chemical reaction between them releases carbon dioxide from the limestone.) To turn cement into concrete it is mixed with aggregates such as sand, stones and crushed rocks, which act as reinforcement, and with water, which reacts with the chemicals in the cement to form a substance called calcium silicate hydrate. This starts off as a thick gel, but then hardens into a solid matrix that binds the aggregates together.

Carrot soup

By adding vegetable platelets to the mix, Dr Saafi and his colleagues can make concrete stronger. This is useful in itself, but it also permits a reduction in the ratio of cement to aggregates that is required to achieve a given level of strength. Reducing the amount of cement in this way consequently reduces CO2 emissions.

The group is still exploring exactly how

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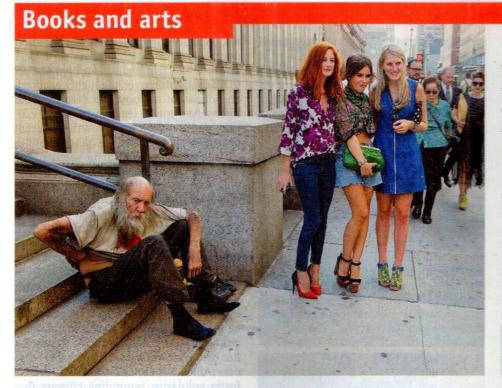
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strong it can make concrete by adding platelets, but initial studies suggest that the impact could be considerable. Just 500 grams of platelets can reduce the amount of cement needed to make a cubic metre of concrete by about 40kg-a saving of 10%. Dr Saafi and his team have now embarked on a two-year study to investigate the process in more detail and to perfect the best mix for use by the construction industry.

Unlike cement, wood is already a composite material. It is made of cellulose fibres embedded in a matrix of lignin, an organic polymer that serves a number of purposes, including providing woody plants with their rigidity. In May Stora Enso, a Finnish forestry-products company, launched a wood-derived alternative to oil-based plastics. This material, called DuraSense, looks a bit like popcorn. It consists of wood fibres, including lignin, obtained from pulping and other operations. The fibres are mixed with oil-based polymers and other additives, such as colouring agents. The resulting granules can be melted and moulded in the same way as plastic is in factory processes. Adding wood fibres, the company says, can reduce the amount of plastic needed to make goods with plastic parts by 60%.

Stora Enso has also found a use for pure lignin, which is often a waste product of papermaking, since most paper is made of pulp with the lignin removed. Stora Enso's engineers have worked out how to use lignin as a substitute for the oil-based resins and adhesives employed in the manufacture of engineered timbers, such as plywoods. Nor are they alone in looking for structural applications for lignin. Along with others they are seeking ways to use it to replace oil-based materials in carbon-fibre composites, which are used to make >>



Inequality and its costs

The crack-up

Is inequality to blame for suicide, drug abuse and mental illness?

THERE is something peculiarly haunting about the recent suicides of Kate Spade, a well-known designer, and Anthony Bourdain, a chef and author (see Obituary). Evidently success-building brands and businesses, achieving wealth and fame-does not ease the psychic pain that many people suffer. Even at the top of the capitalist pyramid, these deaths insist, there is no escape from inner demons. That sad rule applies to nations as much as celebrities. Nearly 45,000 Americans took their own lives in 2016, an increase of almost 30% since 1999, according to new figures released by the Centres for Disease Control. Another 42,000 died from opioid overdoses, victims of America's drug epidemic. The world's richest large country, the city on a hill, sometimes seems to be coming apart. But why?

In "The Sane Society", published in 1955, Erich Fromm, a German-American psychologist and philosopher, asked whether a society could grow sick-whether conditions within it might so distress the inhabitants as to generate mass mental illness. Fromm's argument focused on the strains of economic life at the time he was writing, such as the tendency to work long hours in pursuit of ever more consumer goods. In recent decades globalisation and mechanisation have added new kinds of worry. Yet, so far as mental health is concerned, the pain of these trials has not The Inner Level: How More Equal Societies Reduce Stress, Restore Sanity and Improve Everyone's Well-being. By Richard Wilkinson and Kate Pickett. Allen Lane; 352 pages; £20. To be published in America by Penguin Press in January 2019; \$28

been evenly distributed.

In a paper published in 2010, Kate Pickett and Richard Wilkinson found that about one in ten people in Japan and Germany suffered some form of mental illness in the year they studied, compared with one in five Britons and Australians and one in four Americans. If economic ups and downs are the source of such troubles. they seem to have torn at the minds of citizens in some societies more than others.

The key to the puzzle, Ms Pickett and Mr Wilkinson argue in their new book, "The Inner Level", is inequality. When the distribution of income spreads apart, a society begins to malfunction, affecting the mental health of everyone living within it.

Curse of the social animal

The pair have addressed the subject before. In "The Spirit Level", a bestseller released in 2009, they sought to demonstrate a link between high levels of inequality and all manner of social ills, from poor health and obesity, to crime and violence, to educational failure and low social mobility. The

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more unequal a society, they wrote, the worse it was likely to perform on such measures. Indeed, the social damage wrought by inequality might be severe enough that the rich in less equal societies would benefit from efforts to even things up. The book attracted its share of criticism, as theories of everything tend to, in particular for confusing correlations with causality. Nonetheless, it helped to inspire a burgeoning debate about the costs of widening inequality.

"The Inner Level" seeks to push that debate forward, by linking inequality to a crisis of mental health. This time the authors' argument focuses on status anxiety: stress related to fears about individuals' places in social hierarchies. Anxiety declines as incomes rise, they show, but is higher at all levels in more unequal countries-to the extent that the richest 10% of people in high-inequality countries are more socially anxious than all but the bottom 10% in low-inequality countries. Anxiety contributes to a variety of mental-health problems, including depression, narcissism and schizophrenia-rates of which are alarming in the West, the authors say, and rise with inequality.

Manifestations of mental illness, such as self-harm, drug and alcohol abuse and problem gambling, all seem to get worse with income dispersion, too. Such relationships seem to apply within countries as well as between them. Damaging drug use is higher in more unequal neighbourhoods of New York City, in more unequal American states and in more unequal countries. The authors emphasise that it is a person's relative position rather than absolute income that matters most. A study of 30,000 Britons found that an individual's place in the income hierarchy predicted the incidence of mental stress more ac->>