

# Opinion

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## Rational Expectations

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## Five years too late, Modi fixes gas mess

Government allows free pricing of gas, but only for new finds; does better on oil, now to see if it actually sticks to its new resolve

**T**HE COUNTRY'S OILCOS should have been happy with this week's set of reforms that gives 'full marketing and pricing freedom for crude oil and natural gas'. If their reaction was muted, it is because this freedom, which most thought oilcos had anyway, has only been extended for basins where there is no oil/gas exploration/production today; and while 'fiscal incentive is also provided'—there is, as yet, no clarity on what these are!—this is for 'additional' gas production 'over and above normal production'.

This is much the same mindless incrementalism that has characterised the government's oil and gas policy from the day it came to power; if oil imports comprised 23% of India's imports bill in FY18, doesn't it make sense to give oilcos the global price for all their output, not just that from areas that are likely to have no oil/gas anyway? Indeed, you will now have fields where there will be different prices paid for gas depending on when the contracts were signed and, as a result, there will be disputes over whether the producer is declaring lower output for one field's gas and a higher one for another.

Indeed, while oilcos expected Modi to come up with big reforms, given his plan for a 10% cut in import-dependence by 2022, this hope has not just been belied, there have been some big steps backward. Not surprising then, that India's import-dependence has been rising, and significantly in the case of gas (see graphic).

Modi began on the wrong foot when, despite India importing gas at \$12-16 per mmBtu, domestic oilcos were paid just \$4.2 and, because the NDA government thought it was designed to help Mukesh Ambani—never mind that ONGC would benefit a lot since it also had large gas assets—it never implemented the UPA's policy plan to double prices immediately and, over five years, to free them completely. This ensured there was little investment in gas exploration—till the policy was reversed after two years—and explains why gas output continues to fall.

If the NDA did a quick U-turn on the UPA's gas policy, it continued with the UPA fiction of allowing oilcos to have 'pricing' freedom but not 'marketing' freedom. Those not versed in bureaucratise would think they are the same thing—how can you get the best price if you can't freely market a product?—but they aren't. Today, oilcos are told how much of their oil they have to sell to which refiner. And since buyers know the oilcos have no other option, including exports, both PSU oilcos like ONGC as well as private ones like Cairn get sub-optimal prices; that, in turn, dampens their enthusiasm for hiking output. And this is when, due to high royalties and other forms of tax, every extra dollar to an oilco means around 50 cents extra to the exchequer; so, the government has ended up hurting itself.

Nothing reflects the government's attitude better than its treatment of Cairn Energy that, in 2002, bought Shell's Rajasthan fields for \$12 million, drilled 15 dry wells before striking oil in the 16<sup>th</sup>. After extracting around 460 million barrels already, another one billion can be extracted over the field's life. All told, Cairn—now owned by Vedanta Limited—produces over a fourth of India's crude oil and, till date, has given \$17.1 billion to the Centre and Rajasthan in taxes/cesses/royalty and another \$3.4 billion to ONGC as its share of profits in their JV; that's 85% of its post-opex/capex revenues. And yet, a \$1.6 billion retrospective tax demand was levied by the UPA and, while the NDA didn't reverse this, it even seized Cairn's assets to part-pay the tax even as a global arbitration was going on.

Amongst other policies that make little sense, when Cairn-Vedanta found more oil, the government extended its lease after forcing it to pay 10 percentage points more of its annual profits to the government; in an oil-starved country, you'd think the government would incentivise Cairn for finding more oil. Similarly, in 2016, the cess on oil was hiked by as much as 47% and, in 2017, oilcos were asked to pay service tax on 'cost petroleum' (that's the share of oil/gas oilcos get to reimburse them for their costs), 'cash calls' (the amount a consortium leader asks others to pay for production costs) and on even the royalty paid to the government! The tax was later dropped.

The government's behaviour was equally bizarre when, it turned out, Reliance had taken out 0.3 tcf of gas from ONGC's field that was adjacent to Reliance's. The world over, such migration of gas—due to interconnected reservoirs—is fixed through joint development of the fields, but ONGC/government asked Reliance to pay ₹7,000-8,000 crore as the cost of gas; never mind that ONGC would have had to spend a lot more to develop the field to take out the gas; and since there wasn't enough gas, ONGC would have made losses while doing so. The case dragged on for a few years till, last year, an international arbitration panel ruled in favour of Reliance.

Given this history of incremental policy, deep suspicion of the private sector, frequent policy flip-flops and the introduction of new rules—while their contracts say oilcos will give the government a lower share of profits when they raise investments, a plan was announced to put this in abeyance last year—is it any wonder that neither existing or potential oilcos are convinced the government has a genuine intent to reform the sector?

## Launch Failure

NASA flags design flaws in projects contracted to Boeing and SpaceX, the delays could prove quite costly for the US

**N**ASA BET BIG on US companies Boeing and SpaceX to provide solutions for manned spaceflight, but design flaws with the systems they are building could set the programme back by months—and there will be significant cost overruns accompanying the delay. NASA is paying SpaceX \$2.6 billion and Boeing \$4.2 billion to build rocket and capsule launch systems to put astronauts on the International Space Station from US soil for the first time since America's Space Shuttle program went dark in 2011. As per a Reuters report, NASA's recent rundown of 'key risk items' heavily features the manned spaceflight hardware currently being worked on by the two companies, and warns that additional delays can be expected too. According to a source cited by Reuters, as many as 35 issues have been highlighted by NASA's advisory panel, and addressing those problems may push both companies even farther off schedule.

The most pressing concern is that of the International Space Station (ISS), and NASA has been paying the Russian space programme \$80 million per ticket to carry US astronauts there for some time now. The clock is ticking. NASA extended its agreement with Roscosmos last year after it became clear that neither SpaceX or Boeing were going to be able to meet their more optimistic deadlines, but there are no seats available for US crew on the Russian spacecraft after 2019, given production schedules and other factors. NASA's scrutiny perhaps should temper the over-hyping of the innovation and success of private space players like SpaceX, which, though, has had remarkable successes—it has just launched Israel's first moon mission.

MAHAGATHBANDHAN MAY NOT WORK IN 2019 DUE TO INTERNAL CONTRADICTIONS. THE ALLIANCE PROBLEM IS THAT THE CONGRESS IS A "NATURAL ENEMY" OF IMPORTANT REGIONAL PARTIES

## 2019 Alliance math—a road to nowhere?

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**T**HEY SAY THAT a week is a long time in politics, so what might a month be? In January, opinion polls were sanguine, and unanimous, about a hung parliament. The range of seats, regardless of the polling organisation, was 80-120 seats for the Congress, and 180-220 seats for the BJP. If one took the central tendency, then the Congress with 100 seats was a better bet as the lead party in the next government.

A month or so later, while no new opinion polls have appeared, the mood has gradually shifted towards the BJP/NDA. Pulwama has happened, and the government response might affect the final outcome. We don't know. What we do know, post the Budget presentation, is that the odds have shifted ever so marginally in BJP's favour. The shifting odds have to do with a historical contradiction—the Congress party is a natural enemy of several important regional parties (The analysis presented is based on my book on the electoral economy of India, *Citizen Raj: Indian Elections 1952-2019*, Westland-Amazon, forthcoming April 2019).

Analysis suggests that a large part of the shift in BJP's fortunes are due to cracks within the Mahagathbandhan (Grand Alliance). It appears that the fight is not between the Alliance and BJP, but between the Alliance members themselves; hence, the Alliance will have difficulty in staying together. For the Mahagathbandhan, it might very well be the case of "we have seen the enemy and it is us". This article is not a forecast of what will happen—it is just a documentation of what history suggests might happen. Forecasting elections in the best of times is a minefield, where even angels fear to tread; three months before an election, a forecast without an opinion poll is suicidal for a mere mortal. I am not ready to commit forecast hara-ki just yet.

There are four important facts surrounding this election, facts suggesting that the Grand Alliance may have a tougher fight than first envisioned by the opinion polls in January 2019.

**Fact 1:** There are only two national parties—the BJP and the Congress. The choice for any political party is to either go alone,

or go with an alliance. The option of "home alone" is no longer present for most regional parties. The last holdout, Tamil Nadu, will, for the first time, have two alliances fighting each other—AIADMK-BJP vs. DMK-INC.

**Fact 2:** The BJP started as an official party only in 1984, and in their second foray in 1989, they obtained a national vote share of 11.5% and 86 seats in parliament, a number nearly twice as much as the 44 seats obtained by the Congress in 2014. The rise of BJP and the fall of the Congress is best exemplified by this simple statistic—the BJP in its second election gained twice as many seats as the Congress did in its sixteenth election and 130 years of existence. Result: BJP a rising party; Congress a declining national party, and the decline is on a slippery slope. More than an alliance—a large swing in its favour—maybe needed to bolster its (and the Alliance's) fortunes.

**Fact 3:** The Congress vote share has declined by 20 percentage points (ppts) and the BJP vote share has increased by nearly *exactly* the same amount since 1989—the year which first signalled the impending decline of the grand old party. Congress vote share in 1989 and 2014, 39.5% and 19.1%, respectively; BJP vote share in the same two years, 11.4% and 31%.

**Fact 4:** BJP has very few allies as partners, and in three states—Bihar, Maharashtra, and Punjab—the alliance is not a matter of convenience, but rather a matter of history. To be sure, Bihar's popular chief minister, Nitish Kumar, broke from the BJP in 2013, (after being part of the NDA for over a decade) fought and won the

2015 state battle against Modi, and in a stunning about face, re-joined the Modi-led NDA Alliance in June 2018. This makes the task for the anti-BJP alliance that much more difficult.

We present several examples of electoral math, and alliance failures, below. The key point to note is that the alliance arithmetic is heavily dependent on the existing vote shares being 5-10 ppts higher than the existing NDA/BJP share. A large swing in the favour of the Alliance will help—for the moment, the analysis is presented without any swing in favour of the NDA or UPA.

**UP:** In 2014, the BJP vote share was 42.3%. BSP and SP together obtained 41.8% and the Congress, 7.5%. A simple 3-party alliance would mean a no contest—49.3% for the Mahagathbandhan; an average margin of 7% in a two-party contest is a landslide, i.e., with the Congress, Alliance wins.

Why did Mayawati-Akhilesh ruin Congress's dream by announcing that they would allot only 2 out of the 80 seats to the Congress? Without the Congress, the Alliance starts with a 0.5% disadvantage (41.8% vs. 42.3%). A likely explanation is that more of the Congress vote is considered floating, and likely to gravitate to the BJP. The BSP has the highest glue; the SP somewhat less glue (stickiness of voters).

The 2014 election shows the Congress vote share and rank was low. Number one and number two positions in UP constituencies were as follows: INC (2,6), SP (5, 31) and BSP (0,34). An objective calculation would allow the Congress to only contest 8 seats in UP (adding up one and two).

**If the national partner is small and you are big (at a state level), it is a zero-sum game—the smaller party will lose**

The SP-BSP combine knew that just 8 seats would not be agreeable to the once-almighty Congress.

West Bengal: Mamata Banerjee, on her own, obtained 39% of the vote in 2014 and 44.9% in the 2016 Assembly election. She does not benefit from an alliance with either the CPM or INC—it is them who she has vanquished in both state and Central elections. The gap between her and INC+ votes is about 10 ppts. This is the Alliance (read, Congress) dilemma—if it really wanted Modi to lose, then Congress had to be a very junior partner in West Bengal. That, the Congress party was (is) not willing to do.

**Bihar:** The one outstanding success of an alliance was in the 2015 Bihar assembly election—and it is this memory that likely provoked the Mahagathbandhan dream. It is important to understand why the Bihar alliance worked—it was because the joint opposition vote share was a very large 16 ppts higher than that of the BJP. Hence, even if some of the glue wore off, the alliance would still win. In 2014, BJP won 22 seats and the 3-party opposition of JDU, RJD, and INC, fighting separately, won 8 seats. The vote shares: BJP 29.4%, and the other three 44.3%. One year later, in the assembly election, BJP vote share declined by 5%, and the alliance share declined by 2.5%. Votes share comparison: BJP 24.4%, alliance 41.8%. It was a no contest. The alliance worked because of the big gap in vote shares—BJP obtained 53 seats and the combined alliance 178 seats. The fact is that the Mahagathbandhan is not quite the idea euphorically envisioned in January—a simple reality check suggests inherent contradictions. Modi's opposition is united because of political expediency, and politics requires that they fight each other, not the BJP.

How can there be an effective alliance with those one is in competition with? When that happens in the market place, one actor emerges supreme. The Mahagathbandhan constituents see that as a real danger with the Congress. When the national partner is big, and you are small, it is a positive sum game—both parties gain seats. But if the national partner is small and you are big (at a state level) it is a zero-sum game—the smaller party will lose.

## LETTERS TO THE EDITOR

### Angelic norms

While business-friendly norms for start-ups can increase the return on capital for angel investors/venture capitalists, it is equally important to encourage listings over bourses to monitor operations of enterprises closely and prevent round-tripping, frequent spin-offs or misuse of corporate actions for tax evasions. To offer flexibility and reduce long-term debt, viable channels for fundraising, besides IPO/QIPs and other listed routes, must be standardised/regularised. Allowing a start-up to pick/choose the source of funding renders a greater certainty to the operating model, optimises the capital structure, facilitates quality investments and allows a quicker break-even. Timely and extensive private equity funding reduces overheads, improves the overall technical/business expertise and facilitates a complete operational turnaround. In addition to tax benefits, cost savings and improved market goodwill/reputation, robust governance and continuous strengthening is prudent to progress investor sentiment — Girish Lalwani, Delhi

### A belated move

Pakistan's move to ban the 2008 Mumbai attack mastermind Hafiz Saeed-led Jamat-ud-Dawa (JuD) and its charity wing Falah-e-Insaniat Foundation is a belated move and comes amid intense global pressure to rein in the militant groups following the Pulwama terror attack. However, Pakistan's integrity is suspect, considering that terror groups have the tacit backing of political bigwigs and the security forces. Islamabad must make an honest attempt to rein in terrorists if it is to win over India and the international community — Ravi Chander, Bengaluru

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## Dialectic of global trade policy

What initially was viewed as an unfortunate US shift to protectionism may, in fact, have opened a window to improve the functioning of the global economy and world trade

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**THERE IS A** subtle yet important change occurring in how political leaders think about international trade, including how to remedy long-standing problems. It results from a key distinction between the "what" of trade (where there is relatively broad-based agreement among countries) and the "how" (where differences have tended to undermine important relationships, whether transatlantic or between China and the world's advanced countries). As a result, there is some room for greater optimism than is suggested by talk of damaging trade wars, stifling investment restrictions, technological conflicts, and multiplying great-power tensions. The relatively wide agreement in the international trade area tends to focus on four main hypotheses that are supported by a body of research and evidence:

Firstly, free and fair trade is in the interest of most people in most countries, but it is not sufficient for inclusive prosperity. Specific segments of society can be displaced, marginalised, and alienated. As such, trade is not just an economic issue. It also entails important institutional, political, and social dimensions. Secondly, trade is inherently underpinned by mutually beneficial set of voluntary interactions that are best conducted, to use the language of game theory, as a cooperative game.

Thirdly, an accumulation of legitimate grievances undermines both the ideal and reality of free and fair trade. These grievances relate mostly to what economists call non-tariff barriers, including issues such as intellectual property theft, the weaponisation of economic and development tools, forced technology transfer, insufficiently effective and credible multilateral institutions, and a less-than-stable global economic and financial order. Lastly, fixing these problems has proven frustratingly slow.

That is where the major areas of disagreement begin. How should the accu-

mulating set of problems that undermine free and fair trade be addressed? Over the years, conventional wisdom has stressed that the best option is to maintain an approach focused on cooperative resolution. This implies negotiations that are best conducted free of actual or threatened punishment such as tariff imposition, and it favours reliance on the rules-based framework established by existing multilateral institutions. The other approach is that adopted by the US president Donald Trump's administration. Noting that past efforts to reverse the growth of non-tariff barriers have not worked and will not work, this strategy is more open to the use of tariff penalties to influence behaviour modification, and the threat of escalation in response to any and all retaliation by trading partners.

First widely dismissed as an unfortunate policy pivot, more people now are beginning to wonder whether the new US approach—provided it is not used repeatedly—could, in fact, serve as a beneficial disruption that helps reset international trade relationships and place them on a firmer footing. It is a view that is underpinned by evidence (the shift from retaliation to resolution by such countries as Canada, South Korea, and Mexico) and the prospect that, due to its limited options, China will have no choice but to do the same by addressing some of its non-tariff barriers.

The task for the international community is to take advantage of the emerging window to move more comprehensively on implementing measures to counter slowing growth, reduce the risk of financial instability, and ensure more inclusive prosperity. Such measures are less a problem of engineering (in the sense that most economists agree on what is needed) than of politics (the need for decisive leadership and sustainability).

For starters, domestic pro-growth policies must be re-emerged, both as an urgent standalone priority and to take

pressure off trade. This is particularly important for China and countries in Europe, including six of the EU's largest economies. The focus must be on productivity enhancement, structural changes to respond better to the realities of the global economy of today and tomorrow, more effective safety nets for the most vulnerable and displaced segments of society, and addressing market and government failures that frustrate growth and investment.

Moreover, existing trade arrangements need to be modernised, not only to fix existing problems, but also as part of a broader effort to enhance these arrangements' agility in the face of rapid technological change. Particular attention needs to be devoted to improving the approach to big data, technology transfer, digital infrastructure, artificial intelligence, networks, and mobility. It will be no less crucial to continue reforming the multilateral institutions in order to enhance their effectiveness and credibility.

Finally, the international community must guard against regional arrangements, such as China's Belt and Road Initiative, which are intended to promote development but can end up undermining partner countries. This requires steps to enhance transparency on the terms and conditions of projects and debt undertaken through such initiatives, encourage greater reliance on local labour, and ensure that recipient countries are not encumbered with excessive liabilities. Excessively one-sided debt-for-physical-assets swaps, which can also raise genuine national security concerns, must also be resisted.

It is often said that with risk comes opportunity. What initially was viewed as an unfortunate US shift to protectionism may, in fact, have opened a window to improving the functioning of the global economy and world trade. The next few months will be critical.

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FARMING 4.0

# Digitising plant breeding management in India

ICAR initiates digitisation of its breeding programmes in eight crops to eventually double annual yield

**VIVIAN FERNANDES**

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1121—was released 14 years later, in 2003, followed by a shorter duration version, Pusa Basmati 1509, in 2013.

But varietal development by central institutes, state agricultural universities and private companies takes place all the time. In rice, 1,552 varieties have been notified so far. For wheat, the number is 511. (Only a fraction of the notified varieties are currently cultivated.) Breeding and testing them at many locations is a multi-year process that requires collaboration among researchers.

Digitisation will enable speed and accuracy in data collection and compilation. Instead of notebooks, researchers will record data with handheld devices that can scan, transfer information quickly to the internet, and disclose field locations with the help of satellites. Information will be recorded according to a format for uniformity. By scanning bar codes at the trial plots, information can be relayed quickly and accurately about the crops under observation. Observations like plant height, panicle length, days to 50% flowering and days to maturity can be supplemented with visuals. Artificial intelligence and machine learning can be eventually deployed to make sense of the data by recognising optical patterns. In the current system, some of the information is lost in translation. Breeders may not commit to paper all that they observe, or they may record it with a lag.

The varieties of major crops that are released for cultivation in a state or multiple states are first tested in ICAR's All India Coordinated Research Projects

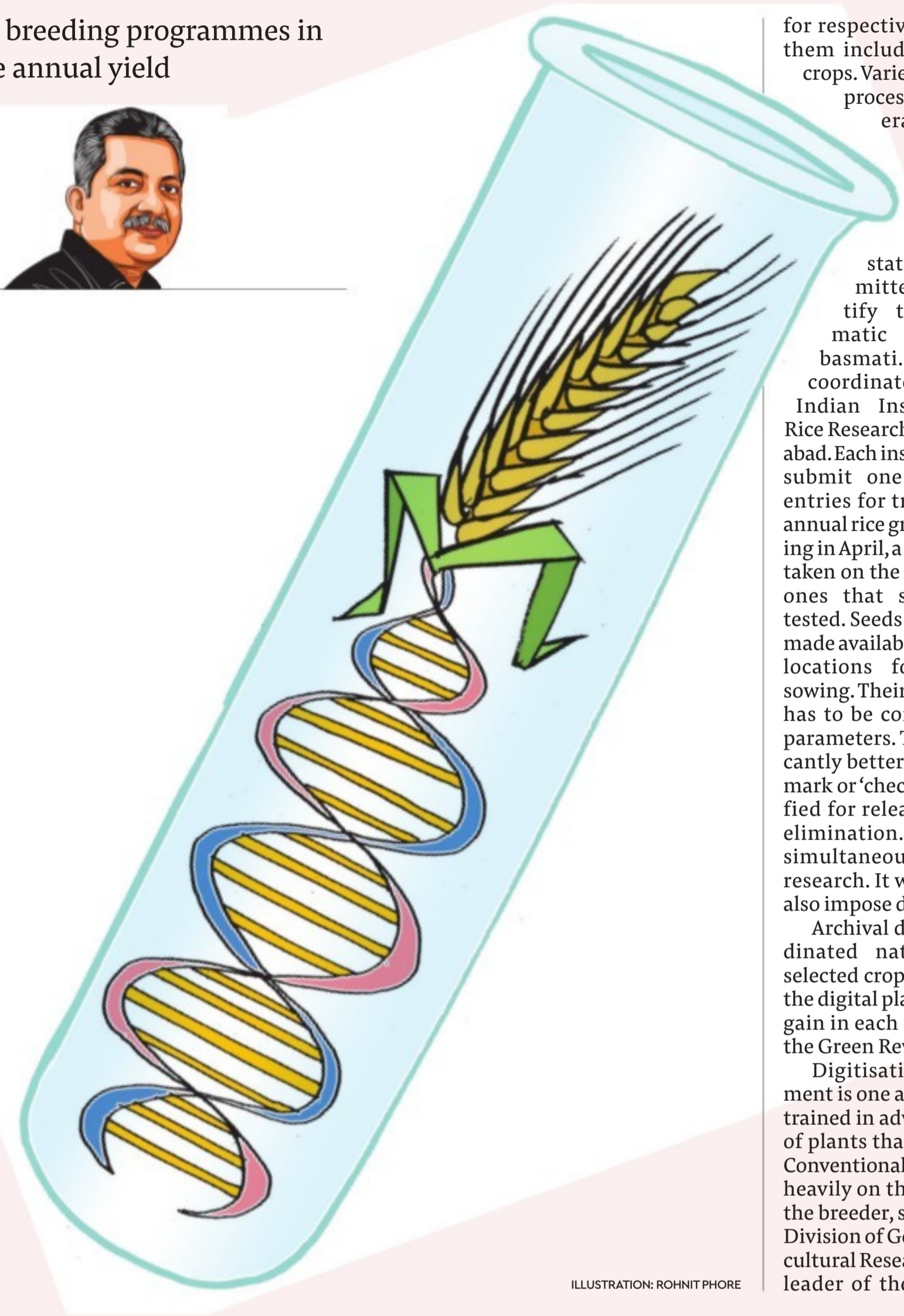


ILLUSTRATION: ROHNIT PHORE

for respective crops. There are 28 of them including fruit and vegetable crops. Varietal release is a three-year process and a lot of data is generated. For basmati, there are at least seven public institutes that are engaged in research. The trials are done at 10 locations in the seven states that are officially permitted to certify their aromatic rice as basmati. They are coordinated by the Indian Institute of Rice Research in Hyderabad. Each institute may submit one or more entries for trial. At the annual rice group meeting in April, a decision is taken on the promising ones that should be tested. Seeds have to be made available at all the locations for timely sowing. Their performance in the field has to be compared against a set of parameters. The ones that are significantly better than the current benchmark or 'check' varieties are then notified for release through a process of elimination. Digitisation will enable simultaneous and collaborative research. It will aid coordination and also impose discipline.

Archival data from 180 trials coordinated nationally for the eight selected crops will also be migrated to the digital platform so that the genetic gain in each of the decades following the Green Revolution can be assessed.

Digitisation of breeding management is one aspect. Researchers will be trained in advanced tools for selection of plants that have the desired genes. Conventional plant breeding depended heavily on the skill and knowledge of the breeder, says AK Singh, head of the Division of Genetics at the Indian Agricultural Research Institute, and project leader of the digitisation initiative.

**The digitisation project will cover eight crops: rice, wheat, maize, sorghum (jowar), pearl millet (bajra), chickpea (chana), pigeon pea (tur) and potato**

Breeders select plants on the basis of phenotypes or observable characteristics that are the result of their genetic make-up, the effect of the environment and the interaction between the two. But plants need to be selected for characteristics that can be passed on to their progeny. Measures such as the Genomic Estimated Breeding Value have a high correlation with the actual performance and can be derived by DNA profiling the plants under trial. This is possible for crops such as rice and wheat whose genomes have been entirely sequenced. Singh says that such tools eliminate even the need for field trials in early generations; the selection can be done from seedlings grown in trays in labs.

International institutes engaged in the Integrated Breeding Platform, which has been funded by the Gates Foundation and the United Nations' International Fund for Agricultural Development. ICAR's digitisation project will enable Indian researchers to collaborate seamlessly with them. About 150 researchers will be trained in advanced genomic techniques and data analytics.

"This is a historic moment," said Trilochan Mohapatra, director general, ICAR, and secretary, DARE, at the launch ceremony. But is productivity increase the need of the hour when farmers are complaining of low prices? Mohapatra says

that enhancement of yield will bring down the unit cost of production and help increase the income of farmers (if their access to markets is not curbed, the supply chains are efficient, and scale economies are made possible through aggregation of both small producers and their plots). The country will also have to plan for the future. According to UN estimates, by 2024, India's population will increase from 1.33 billion to 1.44 billion, surpassing that of China. By 2030, the country will have 1.5 billion people. And there will be less land available for cultivation. With modern techniques and digitisation of the system, desirable traits can be bred in plants more quickly. That would help address the paradox of India having the largest number of malnourished people despite self-sufficiency in food.

(The author obtained some of the data while working as part of ICRIER's agri-research team.)

DATA DRIVE

## Have fund-raising concerns for NBFCs eased?

The fund-raising challenges of non-banking financial companies (NBFCs) because of asset-liability mismatch seem to have eased marginally. In January, there was an uptick in the share of corporate bond issuances by the NBFC sector, reflecting renewed confidence among issuers and investors. In fact, the proportion of fresh corporate bond issuances by NBFCs saw a notable decline from 71.6% in July last year to 64.6% in August. In January, according to a CARE Ratings study, it rose to 82.2% of the corporate bond issuances.

Similarly, the proportion of fund-raising through commercial paper for the NBFC sector was significantly low at 20%, or one-fifth of the total issuances in October last year. However, the share increased in November, before declining in the next two months.

During the peak of the liquidity crisis, NBFCs resorted to higher bank borrowings. The incremental bank borrowings rose to ₹56,499 crore in September last year, which was about ₹45,000 crore higher than the incremental bank borrowings in July. However, November and December have seen a notable moderation in incremental bank credit, indicating that NBFCs are borrowing from the bond market.

The study shows that there is more volatility in the changes in the corporate bond yields in comparison with bank rates. For AAA category, the yields which rose by around 78 basis points in October last year have seen a month-on-month decline in the following three months. The yields have declined by 37 basis points from 9.24% in October last year to 8.97% in January this year.



ILLUSTRATION: SHYAM KUMAR PRASAD

### Share of NBFC corporate bond issuances is significantly higher



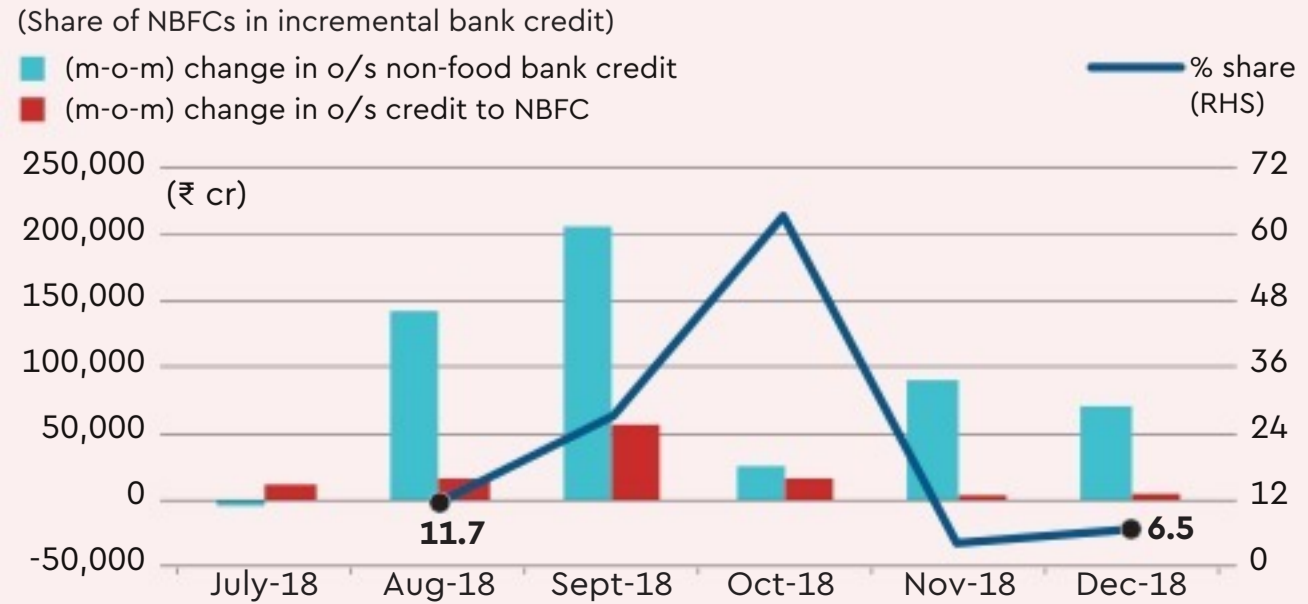
### Share of fund raising through commercial paper lowers



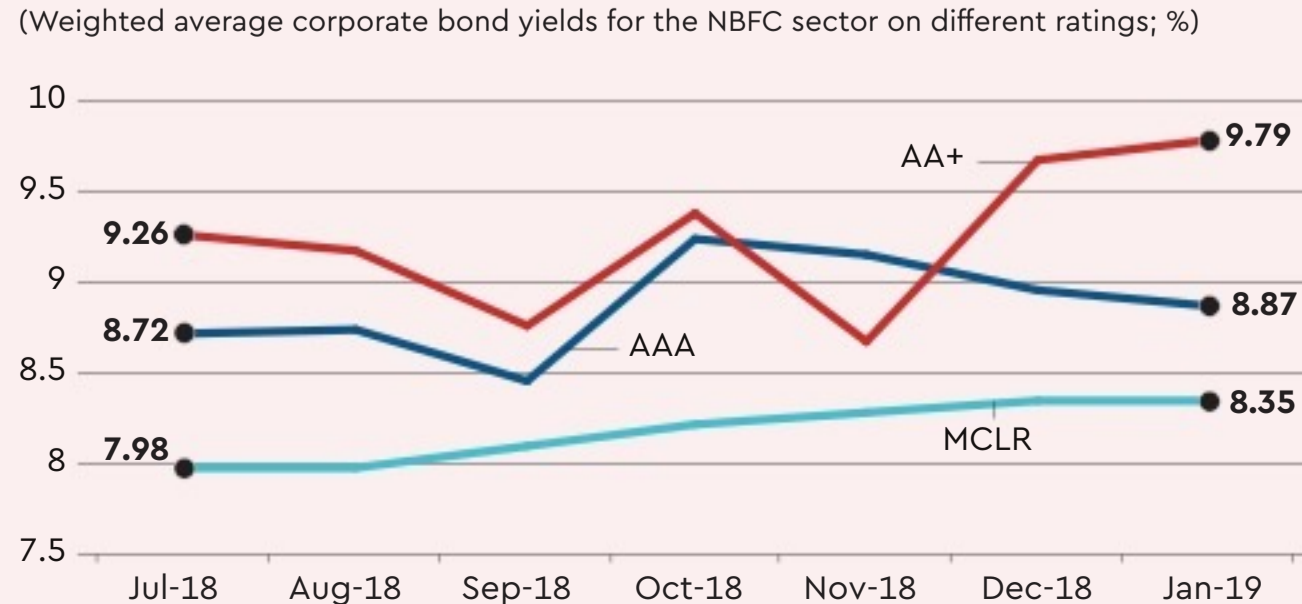
### Share of funds deployed by mutual funds in NBFCs drops



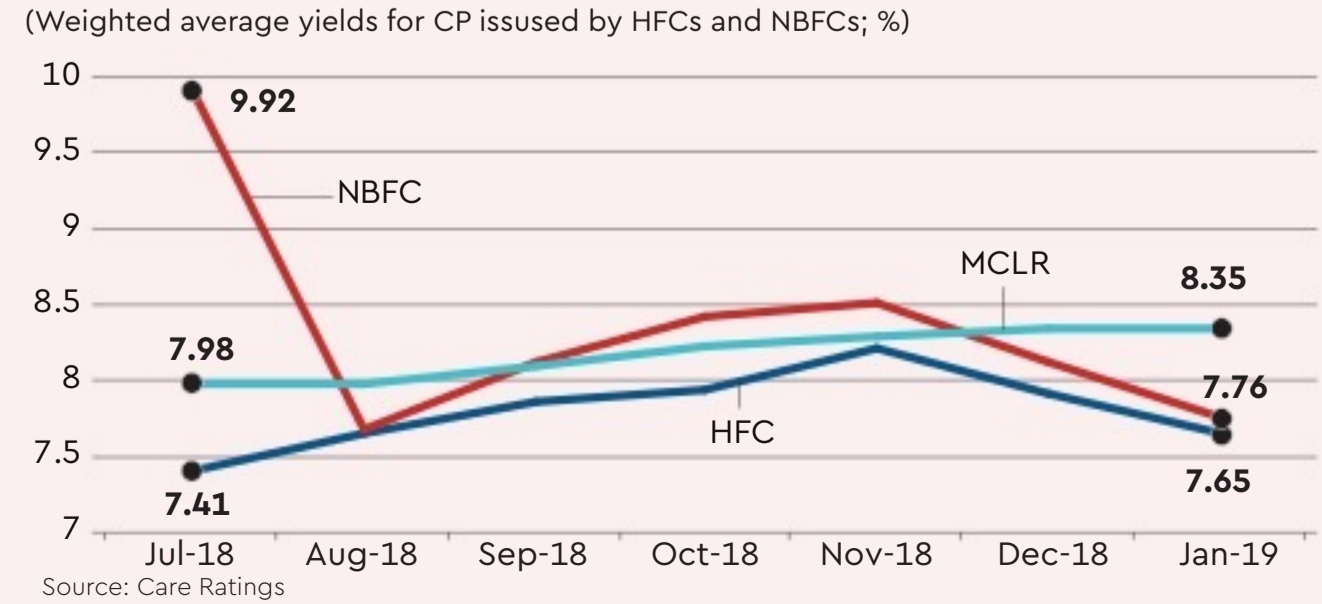
### NBFCs resorted to higher bank borrowings during Aug to Oct 2018



### Corporate bond yields are more volatile than bank rates



### Yields of CPs issued by NBFCs, HFCs moderate



Source: Care Ratings