

# Opinion

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## Rational Expectations

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## HAL lessons for Narendra Modi

Since the government's defence in Rafale case was that HAL wasn't good enough, there is a lesson here for other PSUs

**M**OST OF THOSE who watched defence minister Nirmala Sitharaman's reply in Parliament on the Rafale issue concede that she did a superb job of debunking most of the arguments made by Congress leaders such as party chief Rahul Gandhi. A large part of the debate, in keeping with the Gandhi's *chowkidaar-chor-hai* accusation, centred around the government having replaced the public sector HAL with an Anil Ambani group firm for the offsets.

No proof is required in such arguments, it is automatically assumed that the PSU is the good guy and the private firm is corrupt. So it is to Sitharaman's credit that she asked why, if HAL was so efficient, the UPA didn't conclude the Rafale deal with it as the principal Indian vendor when it was in power; even though Rafale chooses the vendors, the UPA could have indicated that it would like HAL to be the primary vendor.

While finance minister Arun Jaitley had earlier pointed out that the figures cited by Gandhi as the gains to Ambani were far greater than even the value of the Rafale contract, Sitharaman argued that the reason why the HAL agreement had not been concluded was that it would have cost more to produce Rafale in India as compared to producing it in France as HAL was not as efficient; also, she said, the manufacturers of Rafale were not willing to guarantee the quality of aircraft produced by HAL.

And then, the masterstroke, at least in terms of talking points in a debate, she quoted from the report of the Public Accounts Committee headed by Mallikarjun Kharge, the leader of the Congress in the Lok Sabha. While discussing the long delays in the Light Combat Aircraft (LCA), the PAC said "even after more than twenty five years after the Government of India shifted the focus on maximising the indigenous development, only a few fully indigenised components/systems could be developed". At another place, it said, "the HAL, ADA and its work stations are miserably failing in its R&D to have the much needed technology in the aviation sector" and added, "since HAL could not augment its capacity in line with the demand of the IAF, the IAF will have to depend on imported aircraft for a longer time, given its dwindling squadron strength".

Given how complicated and sophisticated fighter aircraft manufacture is, the criticism of HAL may be excessive, especially since there is no well-established vendor base in the country to source parts from. But that is precisely the point that needs to be appreciated—as long as only HAL is to be considered as a suitable vendor, how is such a vendor base to be developed? And, in the absence of competition, how is HAL expected to become more efficient?

In this case, prime minister Narendra Modi's government is making the right point: that, apart from the fact that Rafale chooses the vendors and not the government, is it in the national interest to award a contract to a firm just because it is a PSU and not worry about costs and the ability to deliver on time? After all, whether a HAL makes parts or a Tata Advanced Systems does, the value is still created in India, as is the employment and technology absorption. The Kharge report details just how many decades the LCA project has been delayed by. Things would have been different had leading private manufacturers been involved.

Even while it is true that HAL alone is not responsible for the delays, there are several reasons for why it—and this applies to most PSUs—has not been able to perform as well as hoped. Most PSUs are hobbled by bloated and inefficient workforces and they don't get the best talent since they pay the least at senior management level—despite this, MTNL's wage bill is 99% of its turnover and BSNL's 55% versus 4-5% for a Bharti Airtel. And the structure of control is such, since PSUs are considered an 'instrumentality of state', their decision-making is slow since everything, even a consulting contract, has to be bid out and, more than quality, it is the lowest price that is accorded priority; deviations from this rule are possible, but need to be justified to the CAG, the CVC, etc. Slow decision-making is the norm in most PSUs, though there are exceptions.

At a function organised by the CAG last year, finance minister Arun Jaitley flagged this issue ([goo.gl/XNVY2j](http://goo.gl/XNVY2j)), but fixing this requires either a Constitution bench of the Supreme Court to give a ruling on the issue of 'instrumentality of state' (SC has ruled on this in different ways in the past) or for Parliament to amend Article 12 of the Constitution to ensure that, at least in areas where there is private competition, PSUs are free to act like private-sector firms and not be considered an 'instrumentality of state'.

But since Modi has not been able to convince either the Supreme Court or Parliament to fix this, PSUs remain hobbled. In which case, as he did in the case of HAL, Modi needs to point out that PSUs aren't necessarily the good guys, that supporting a Tata Steel is as good for the country as supporting a SAIL, or an Rjio as good as an MTNL or a BSNL. And you have to consider the huge losses of PSUs that the taxpayer has to fund each year; in just the case of banks, taxpayers have funded ₹1,96,662 crore of recapitalisation in just the period since the government has come to power and the Centre has proposed to infuse another ₹54,467 crore in the remaining months of this fiscal.

With Modi unable to free PSUs, this has meant they continue to underperform versus the private sector. As a result, while private sector valuation—market capitalisation—has soared, that of PSUs hasn't; in relative terms, this means PSUs have lost ₹12.8 lakh crore in valuation since Modi came to power. Put another way, even if Modi is averse to privatising PSUs—not one sale has taken place since he came to power—he will get that much less money from even selling PSU shares, money that could be used to build hospitals, toilets, etc. There can't be one standard to judge PSUs in the case of Rafale and another the rest of the time.

## Deliberative Democracy

Participative democracy could make policies more efficient, but only when there is no asymmetry of information

**P**OLICIES FOR POVERTY alleviation often have a top-down poverty identification over which the poor have little say. Vijayendra Rao, a lead economist from the development research group of the World Bank, and Paromita Sanyal, from the Florida State University, in their book on *gram sabhas* (village councils), offer insights into the open-debate-based assemblies in rural India that could act as an answer to distant and non-participatory forms of 'pro-poor' governance. This form of direct democracy is organised around the principle of deliberative decision-making that holds that the interests of diverse citizens can be represented by a process of dialogue that builds consensus.

The authors used discussions from 300 *gram sabhas* in the four South Indian states (undivided Andhra Pradesh). These meetings were sampled from a design that allowed them to tease out the extent to which state policy influences the nature of discourse at these village-level meetings. They find that states that prioritise citizen participation in local governments have substantially better deliberative quality than states that don't focus on local decentralisation. That said, is participative, deliberative policy-making at the grassroots preferable over a top-down model? Rao and Sanyal find that while illiteracy does not hamper political discourse, it makes the discussions haphazard. The discussions of those villages that possess a lesser literacy rate are more noisy and less focused on governance issues. Thus, while policies are far more effective when there is consultation at the grassroots than when there isn't, the consultation loses edge if it happens in conditions of asymmetric information and understanding.

**S**EVERAL NOTEWORTHY POINTS about the 10% quota bill that has just been passed in the Lok Sabha. Given the biases BJP office holders are known to have, it was not surprising that BJP spokespersons did not emphasise the fact that the 10% quota for economically weaker sections (i.e. those not SC, ST or OBC) was the first time in India's long non-secular history that a government welfare programme specifically included Muslims under its umbrella of recipients. What was surprising, however, is the fact that the secular liberals had a lump in their throat which prevented them from uttering the M-word. Instead, all the utterances and the profound insights on TV and print media was how this was a poll bound *jumla*, and that it showed the desperation of the BJP to gather votes.

Several contradictions abound. If it was a *jumla*, then why did the political opposition all come out in praise of the policy? It was supported near unanimously in the Lok Sabha; by the time Raja Sabha came along, some of the parties found their misplaced "conscience" and abstained from voting. Then the critics, some of them lawyers, came out of their hiding and pronounced legal judgements that the 10% will not pass muster in the Supreme Court, because the SC had passed path breaking legislation disallowing any Central government reservation beyond 50%.

Let us take it from the beginning. Reservation is an issue that I have studied in some detail over the past two decades. My own view has been, and is, that India should never have proceeded on the path of reservations, and that by doing so, it pursued the wrong means for correct objectives. The downtrodden, especially those historically so, like Scheduled Castes and Scheduled Tribes, did deserve special consideration, and should have been identified and provided with state-defined extra income support. What might these have been? Income support programmes from the very beginning and huge extra-aid for schooling of the SC/ST kids—such that SC and ST children would attain the average educational level of those with "upper caste" backgrounds.

This was most emphatically not done. The liberal elite had other ideas,

## NO PROOF REQUIRED

LET US ADMIT THAT THE 10% QUOTA FOR ECONOMICALLY WEAKER SECTIONS IS THE BEST POLICY INITIATIVE FOR THE QUOTA POOR—AND BY FAR THE BEST POLICY FOR MUSLIMS

# Recommended— with some reservations

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one that required their feudal-inspired largesse to help "the poor" and those that had been historically discriminated against. Hence, Indian governments conceived of every which way to help the elite, and not help the poor; if the latter, then they made sure that there were plenty of opportunities for corruption to run amok. Instead of expanding primary health care and primary and secondary schools for all, we allowed private schools to flourish and public schools to be starved of expenditure and facilities and expansion—and to be staffed by teachers who did not even come to class but had permanent employment and could not be fired (or released from public duty!) What did this result in—the elite went to private schools, paid large fees, and then entered temples of wisdom created and expanded for their benefits (like prestigious universities such as Delhi University and IITs and IIMs).

Except by a very few, all of this was welcomed and supported, and especially by the SLs (secular liberals). Indeed, most of these SLs protested when bus fares were raised to ferry them from their tony homes to the North Delhi campus. And when some misguided souls advocated the raising of fees at Delhi University, they protested, went on *hartal*, and complained about their rights to free education being violated.

The lack of good primary and secondary education for the non-elite meant that the dominantly poor (SC, ST and Muslim) students did not get a good education. But because of special reservation quotas, the SC/STs expanded their education base and were also able to get government jobs. In 1983, an average SC/ST youth had 2.4 years of educational attainment and an average

Muslim youth (5-24 years) had 3.3 years; in 2011/12, an average SC/ST youth had 7.1 years of education, and a Muslim youth had the least educational attainment in the country of 6.9 years.

But the Muslims do come under the OBC (Otherwise Backward Class often confused with Otherwise Backward Caste) classification and so should be eligible under the OBC classification. However, Muslim OBC youths have significantly lower educational achievement (5.8 years) than non-Muslim OBCs (8.5 years) in 2011/12. Further, as the Sachar committee report documented, Muslims in government jobs are about a third lower than their population levels.

What deserves emphasis is that the 10% quota for Economically Weaker Sections (EWS) of the population (around 30% of the total population) is the first reservation system for those not currently covered by government support. This will be the first time that poor non-OBC non-SC/ST individuals will get a chance. And, given that Muslims are the poorest (economically weakest), they should obtain preference in the EWS 10% quota.

The limit for eligibility for this class has been fixed at ₹8 lakh per family. This seems a bit high, and it is objectively quite high. Much has been made of the fact that, as per income surveys conducted by NCAER (IHDS survey) and wage surveys conducted by NSSO, the ₹8 lakh household income cap makes 99% of households eligible. But these surveys are able to capture only 25-30% of personal incomes. In reality, the ₹8 lakh limit makes 20% of households ineligible.

But where did the Modi government obtain the guidance for fixing this limit? From that fixed for OBCs by different governments since 1993. In 1993, the

OBC creamy layer was defined at ₹1 lakh per family. In 2013, this limit was raised to 6 lakh (with intermittent increases as follows: up to ₹2.5 lakh in 2004 and ₹4.5 lakh in 2008). Note that all these increases were instituted by the Congress. The total increase in limit has been 700%; increase in CPI during this period has been 413%. In 2017, the NDA government increased the limit to ₹8 lakh—an increase of 33%, with a CPI increase during the same period of 21%.

Given this correct expose of the pathway to the ₹8 lakh limit, I humbly ask the *jumla* experts in the media and elsewhere—where were you in 2004 and 2008 and 2013 and 2017 when the OBC limit was raised to the present exorbitant levels? Only now, that an NDA government has instituted the change, is the limit deemed excessive (which it is). And why? Because some "poor" Muslim, Sikh and Issai will now get the benefit that was almost the exclusive preserve of Hindus before? As discussed above, Muslim OBCs are unlikely to have benefited much from the OBC quota.

The Modi government needs to be congratulated for two reasons—allowing Muslims the benefits of misguided social policies, i.e. quotas and reservations. The second reason is embedded in the first—finally, the doors are open for a genuine debate, a genuine reconsideration, of bad social welfare policies of the last 70 years.

The only explicit reservation policy contained in the Constitution is for seats in the legislature, i.e. reserved constituencies for SCs and STs. Even this reservation was for 10 years—through amendments, it has been renewed every 10 years, and the next amendment is due in 2020! Otherwise, there is Article 15 (4): Nothing in this article or in clause (2) of Article 29 shall prevent the State from making any special provision for the advancement of any socially and educationally backward classes of citizens or for the Scheduled Castes and the Scheduled Tribes.

Special provision does not mean a quota; note also that socially and educationally backward is highly correlated with being backward (poorer) in incomes. Hence, this is the first chance for poor Muslims, and poor Patels, and poor Brahmins to get social benefits. After they do so, let us think about revising the present bad system of quota governance.

## LETTERS TO THE EDITOR

### Business growth, focus on IT?

At a time when the sector is confronted with a skill-gap in emerging technologies, billable margins are stagnant, visa norms are restrictive and Brexit-shaped pressures are mounting, revenue growth is largely backed by income from non-core operations. The growth-rate is well-short of market standards. Income-generating opportunities in product development and licencing are far from being realised in full. Top management ought to develop a higher risk-appetite, especially when legacy sources have diminished operating profits. Techno-intensive solutions to enhance business-user experience and shorter delivery cycles should be prioritised as key-objectives  
— Girish Lalwani, Delhi

### Verma's return shortlived

CBI director Alok Verma's reinstatement to the post by the Supreme Court after a 77-day forced leave proved shortlived as he was unceremoniously removed by a high-powered committee headed by PM Narendra Modi. While the prime minister and the CJJ representative were on the same page, Congress leader Mallikarjun Kharge was the lone dissenting voice. Verma is the first chief in the CBI's 55 year history to face such stringent action. The high drama at the CBI and the Congress attack on Modi makes one wonder whether there is more to this episode than meets the eye  
— Ravi Chander, Bengaluru

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## PC lesson for smartphone industry

The end of easy growth in PCs forced Microsoft, computer-chip makers, PC hardware vendors and others to think harder about innovation. Consumers got more and better choices

SHIRA OVIDE

Bloomberg

**THE SMARTPHONE MARKET** is following the growth-challenged path of personal computers. That won't please executives at Samsung Electronics Co. and Apple Inc., but their pain might be great for consumers.

Both Apple and Samsung blamed weak smartphone sales for recent disappointing revenue, at least in part. And worldwide, shipments of new smartphones declined slightly for the second consecutive year in 2018, according to estimates from research firm IDC.

The smartphone market has entered a phase that the personal-computer industry hit several years ago: Devices are useful and good enough that people are buying replacements less often, which pinches sales of new devices. PC shipments peaked in 2011 at 364 million units, IDC figures show. In the 12 months ended September 30, shipments were about 260 million. (The smartphone market is multiple times larger than PCs were even at their peak. About 1.4 billion new smartphones are shipped in the world each year.)

Necessity (and desperation) has been the mother of PC invention. That fallow stretch has been marked by some of industry's cleverest experiments.

Many companies are mixing PCs with elements of tablets and smartphones, including the ability to connect to the internet with cellular signals. There are more high-end, slim laptops for people who want stylish design and light weight.

PC makers have also been introducing a flurry of souped-up PCs tailored to video game diehards with immersive

graphics and massive screens, including new designs unveiled at the Consumer Electronics Show this week. Low-cost Chromebooks—cheap laptops that do almost everything through web browsers—have swept through US schools and reshaped technology for classrooms. The stodgy desktop computer is being re-imagined, too. The industry has evolved to make sure there really is a PC for every need and every budget.

It might be a blip, but the PC market is slightly growing again after all these developments. IDC estimated that shipments of personal computers worldwide inched up 0.7% in the first nine months of 2018 compared with those in the same period a year earlier. Figures for the fourth quarter and full year are expected this week. PC power players such as Microsoft Corp., Intel Corp. and HP Inc. have posted strong revenue growth recently from their personal computer segments.

To be clear, few people expect PCs to resume the rapid growth rates of the 2000s. The devices will never again be the central fixture of most people's computing lives. But they still have their place. I wrote this column on a PC. Even in the days of controlling computerised machines with our fingers, voices and eyeballs, the classic interfaces have some appeal. I sometimes use my seven-year-old MacBook Air with—sorry, Jony Ive—a mouse rather than its touch-controlled track pad.

Just as smartphones cannibalised some of the time and money people spent on PCs, now the same is happen-

ing to smartphones. Carolina Milanesi, an analyst at market research firm Creative Strategies, said people are devoting bigger chunks of their budgets and waking hours to newer gadgets such as internet-connected home speakers and wearable devices.

With this computing fragmentation, the smartphone market could use a dose of PC-like fresh thinking. The age of the rectangular glass slab has gone on for a long time. The annoying limitations that people complain about, including too-short battery life and too-fragile screens, persist even as screens get bigger and processors faster.

My colleague Tim Culpan isn't excited about some of the coming smartphone technology developments, such as faster wireless internet speeds and screens that fold, that analysts hope will jolt new device sales. Unlike Tim, I am guardedly optimistic about smartphone screens that fold like books, which Samsung has said it will introduce in smartphones this year.

The good news for consumers is we've seen this trend of stagnant computer device sales before, and it was helpful. The end of easy growth in PCs forced Microsoft, computer-chip makers, PC hardware vendors and others to think harder about innovation. Consumers got more and better choices. It might not be so bad, for consumers at least, if the smartphone keeps going the way of the PC.

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**FARM LOAN WAIVERS**

We can only hope that the political narrative and action changes from promising and disbursing financial doles (such as the loan waivers), to enacting more holistic reforms, so that the landless, marginal and small farmers are empowered, in the real sense

# Competitive populism serves none

**THE PUBLIC DISCOURSE** on farm loan waivers as a solution to agrarian distress has gained currency in recent times, particularly as political parties across the spectrum have begun to engage in one-upmanship in electoral populism—promising farm loan waivers if voted to power. Agrarian distress and the promises of farm loan waivers are likely to be a dominant agenda for the upcoming general elections this year, and one can expect even more aggressive posturing by incumbent subnational governments, across the political spectrum, to signal their credibility to the electorate in effecting such loan waivers.

While political parties have overtly positioned loan waivers as a solution to reduce farm distress, it is easy to see that the promised farmers have covertly served as a tool to extract political dividends during elections.

The clamour for nationwide implementation of farm loan waivers is convenient political posturing, and does little to help the distressed marginal and small farmers of the country. Let us consider the nature of the indebtedness problem among agricultural households. Data analysed by PRS Legislative Research show that while marginal and small farmers account for 82% of all indebted households and 56% of the outstanding loans by value, more than three-fifths of the marginal farmers borrow from non-institutional sources such as moneylenders, family and friends. On the other hand, 79% of large farmers (who own over 10 hectares of land) have an average outstanding loan of ₹2.9 lakh, about four-fifths of whom borrow from institutional sources such as banks and cooperatives. Therefore, such amnesty exercises have not, and will not, benefit the distressed farmers. Such competitive populism may only provide transitory benefit to the large farmers, to the effect of permanently destroying the credit culture in the economy.

The prognosis of agrarian distress requires understanding of and focus on addressing some of the underlying structural issues plaguing the agricultural sector. Unfortunately, this has not been the

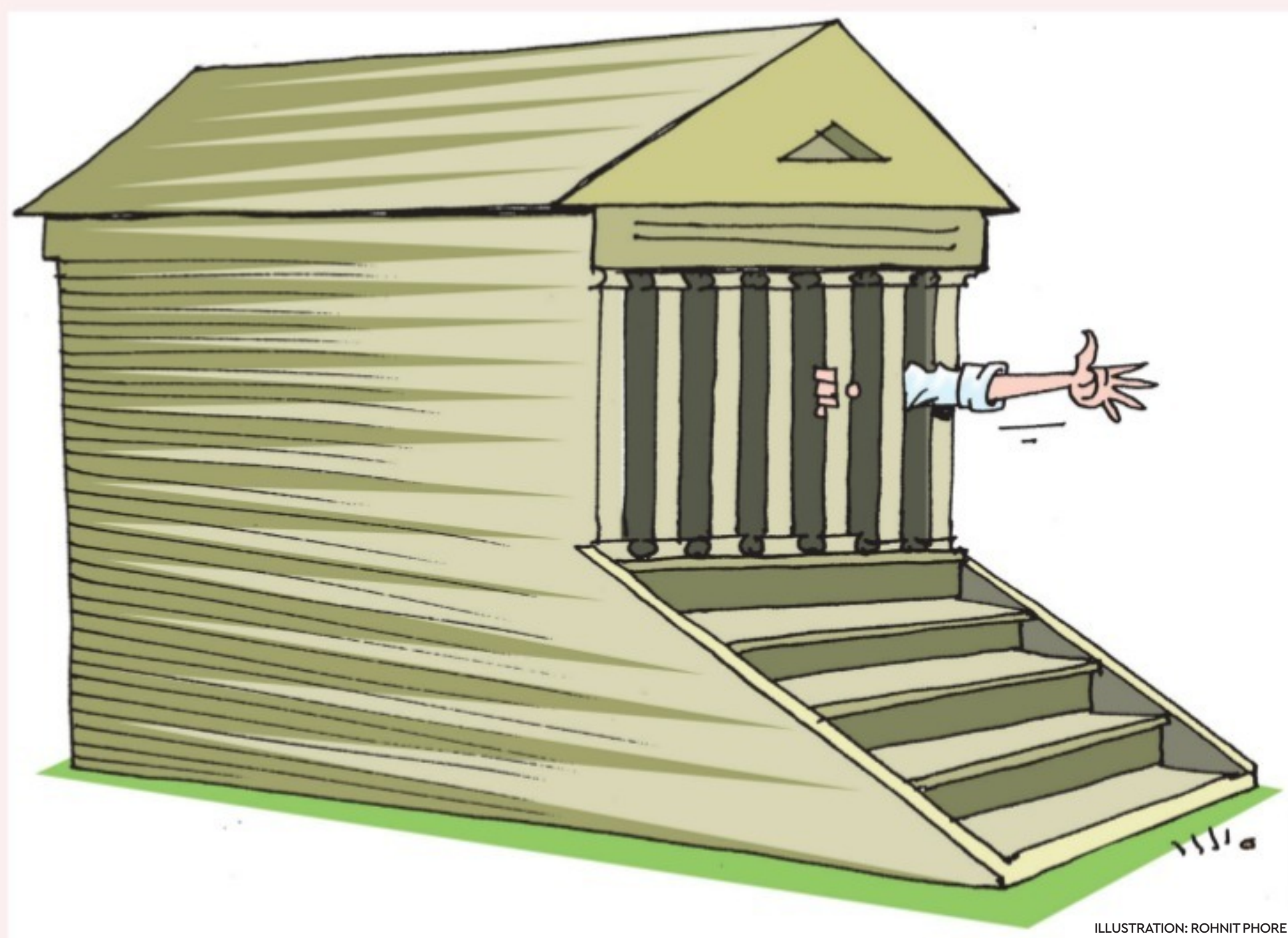


ILLUSTRATION: ROHINIT PHORE

**AMANDEU NANDY & ABHISEK SUR**

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real agenda of most political entities in this country, as political exigency has strictly dominated economic rationale in outlining respective policy stances.

The first relates to the persistence of low farm incomes—attributed to the differential transitions in sectoral

shares—measured in terms of output and employment. While the share of the primary sector in GDP has steadily declined from a high of 55% in 1951 to 25% in 1991, and further to around 17% in 2017-18, similar transitions has not happened in the employment

pattern across sectors. Agriculture and allied activities continue to employ about 50% of the total workforce, resulting in a sharp decline of factor productivity and incomes. According to the All India Rural Financial Inclusion Survey 2016-17, published by NABARD in August 2018, the average net monthly income of rural households was ₹8,059, of which ₹1,906 (or only about 24%) was accounted for by a government or private job! Clearly, there has been a failure to create enough remunerative non-farm employment opportunities in rural areas, necessitated due to structural transitions in the economy. Therefore, instead of ad hoc measures such as loan waivers,

public policies need to be directed towards aligning structural shifts in the economy with labour market outcomes—by focusing on education, training and skill development of rural populace, so that they become equipped for better-paying jobs created in the new economy, in allied or other sectors.

The second concerns the addressing basic infrastructure issues in the agricultural sector, which has resulted in repeated episodes of distress in various parts of the country. For example, inadequate irrigation infrastructure continues to render the farmers vulnerable to the vagaries of nature, exposing them to severe income shocks. As analysed and reported in Chapter 6 of the Economic Survey 2017-18, an extreme rainfall shock (defined as rainfall in the bottom two deciles) resulted in reduction of farm revenues during the kharif by 14.3% in unirrigated areas, compared to only 7% in irrigated areas. Sadly, in the din and bustle of electoral politics, such instructive economic narrative has failed to inform policy agenda and choices.

Third, a piecemeal approach to agricultural reforms has neither stabilised agricultural prices, nor has it boosted agrarian incomes. For example, the ministry of agriculture & farmers' welfare has recently come up with a new model of Contract Farming and Services (Promotion and Facilitation) Act, 2018, based on the erstwhile Agricultural Produce Market Committee Act (APMC 2003) in efforts to reform the agricultural markets. The Act does little to safeguard farmers' interests, particularly the bargaining power of the small and marginal farmers—as profit-maximising private players, driven by economies of scale considerations, are

**Strengthening farmers' rights and bargaining powers, particularly of tenant farmers who cultivate 35% of the total agricultural land, can go a long way in reducing agrarian distress**

likely to exclude small and marginal farmers with meagre land holdings. Similarly, the crop insurance scheme of the government—the Pradhan Mantri Fasal Bima Yojana (PMFBY)—appears to safeguard the interest of the farmer, as available evidence points out that payouts are neither timely, nor in amounts commensurate with their losses. Therefore, strengthening farmers' rights and bargaining powers, particularly of the tenant farmers (mostly landless or marginal farmers), who currently cultivate

about 35% of the total agricultural land in the country, can go a long way in reducing agrarian distress.

Indeed, a study by Abhijit Banerjee, Paul Gertler and Maitreesh Ghatak, published in the *Journal of Political Economy*, showed that the land reforms and agricultural tenancy laws implemented in West Bengal in the late 1970s and early 1980s led to higher agricultural productivity subsequently. The implementation of agricultural tenancy laws, which offered security of tenure to tenants and the regulation on the share of output paid as rent, helped increase farm productivity and incomes through increased bargaining power and sense of security of tenure to the small and marginal farmers. In turn, this substantially reduced distress, as evidenced by very low starved deaths and farmer suicides in West Bengal, compared to other states in India.

Competitive populism through loan waivers meaningfully serves none—the country or the marginal farmer. We can only hope that the political narrative and action changes from promising and disbursing fiscally-imprudent doles (such as the loan waivers), to enacting more holistic structural reforms—which correct for existing government and market failures in the agricultural sector—so that the landless, marginal and small farmers are empowered, in the real sense.

**DATA DRIVE**

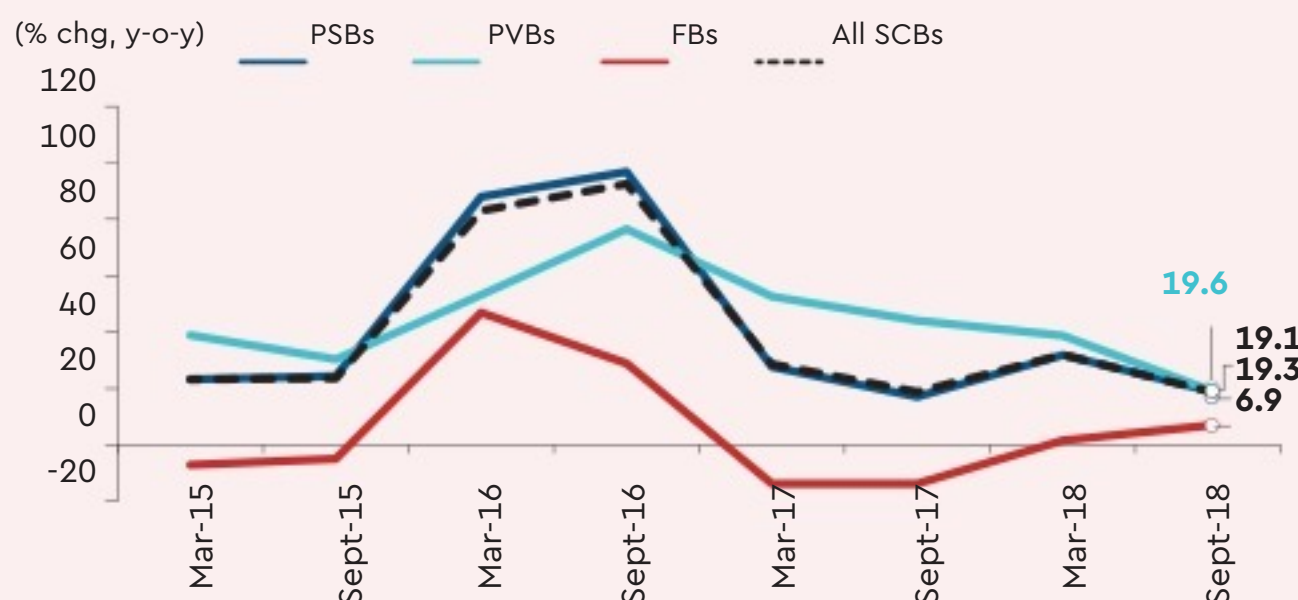
## NPA burden of banks getting lighter?

**THE ASSET QUALITY** of banks is likely to improve, as the latest biannual Financial Stability Report (FSR) of the Reserve Bank of India shows. The gross non-performing assets (GNPA) ratio of all scheduled commercial banks (SCBs) declined to 10.8% in September 2018 from 11.5% in March 2018. Going forward, it is likely to decline to 10.3% in March 2019 and 10.2% in September 2019.

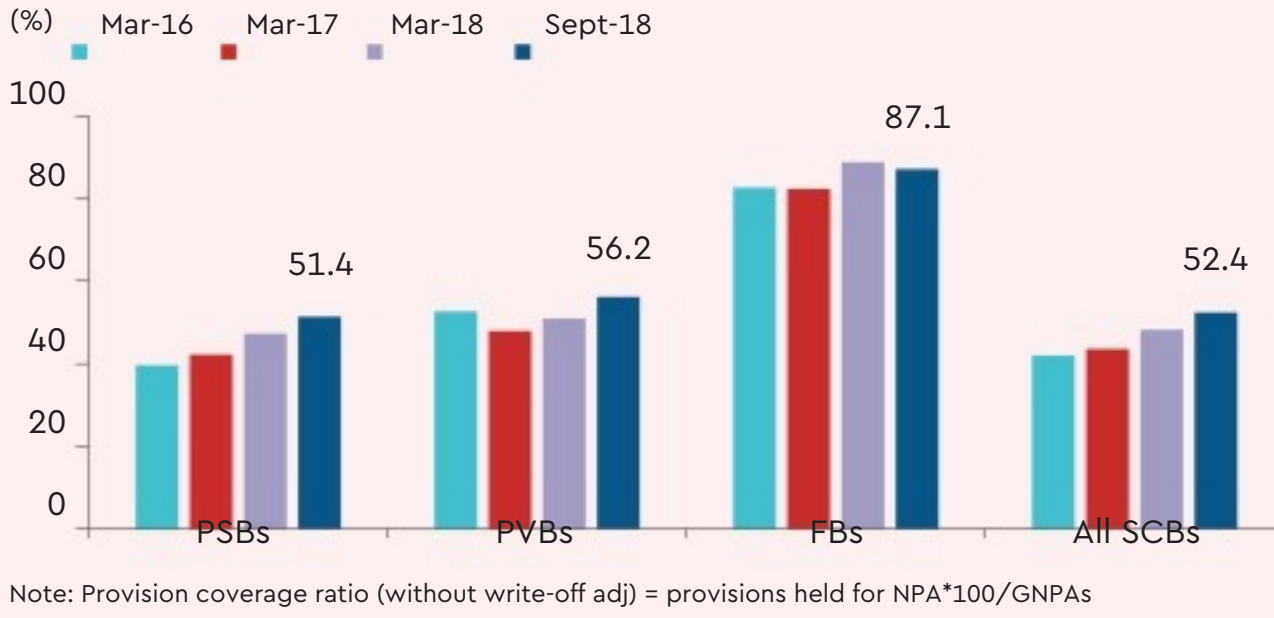
private sector banks showed a half-yearly decline. The distribution of banks' GNPA ratio shows that the number of banks having GNPA ratio less than 10% has gone down in September 2018 as compared to March 2018.

Sector-wise, the asset quality of industry improved in September 2018 as compared to March 2018 because of a reduction in fresh slippages, but that of agriculture and retail sectors deteriorated.

**Growth in SCBs' GNPA**



**Provision coverage ratio**

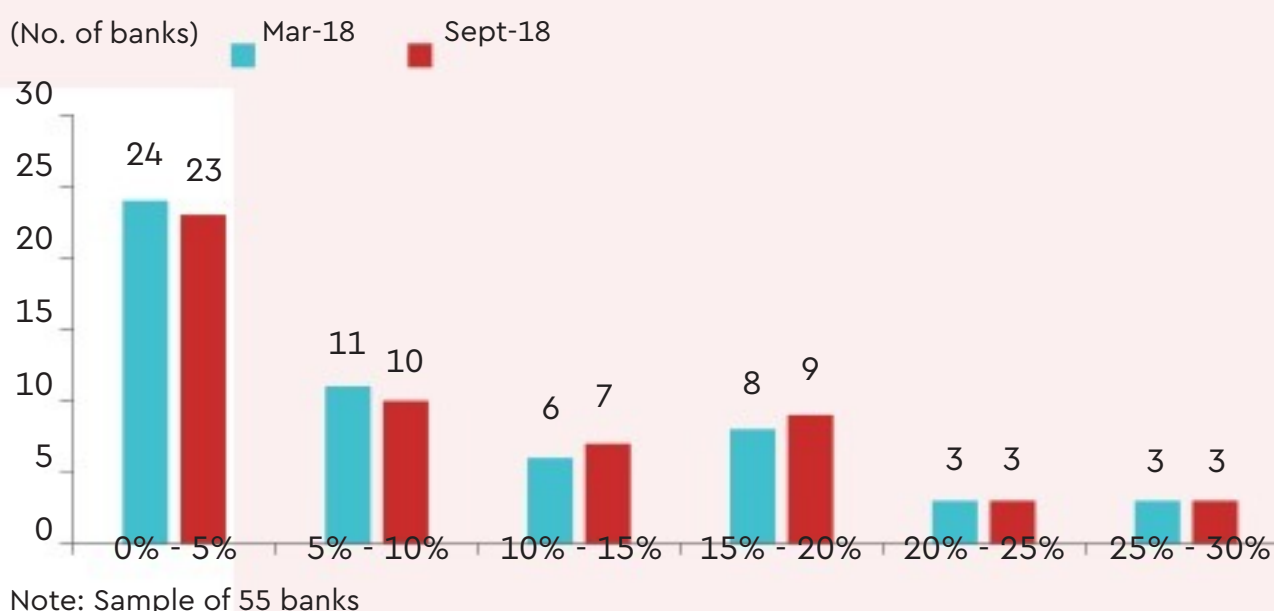


Note: Provision coverage ratio (without write-off adj) = provisions held for NPA\*100/GNPAs

**Gross non-performing assets (GNPA) ratio**

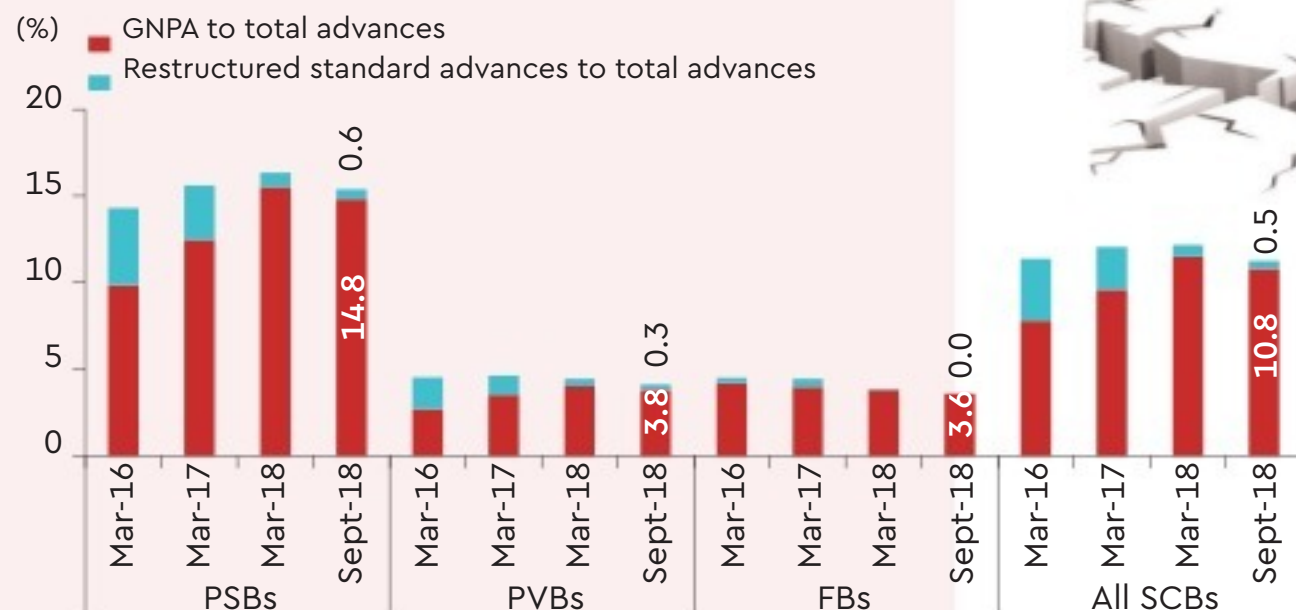


**Distribution of banks' GNPA ratio**

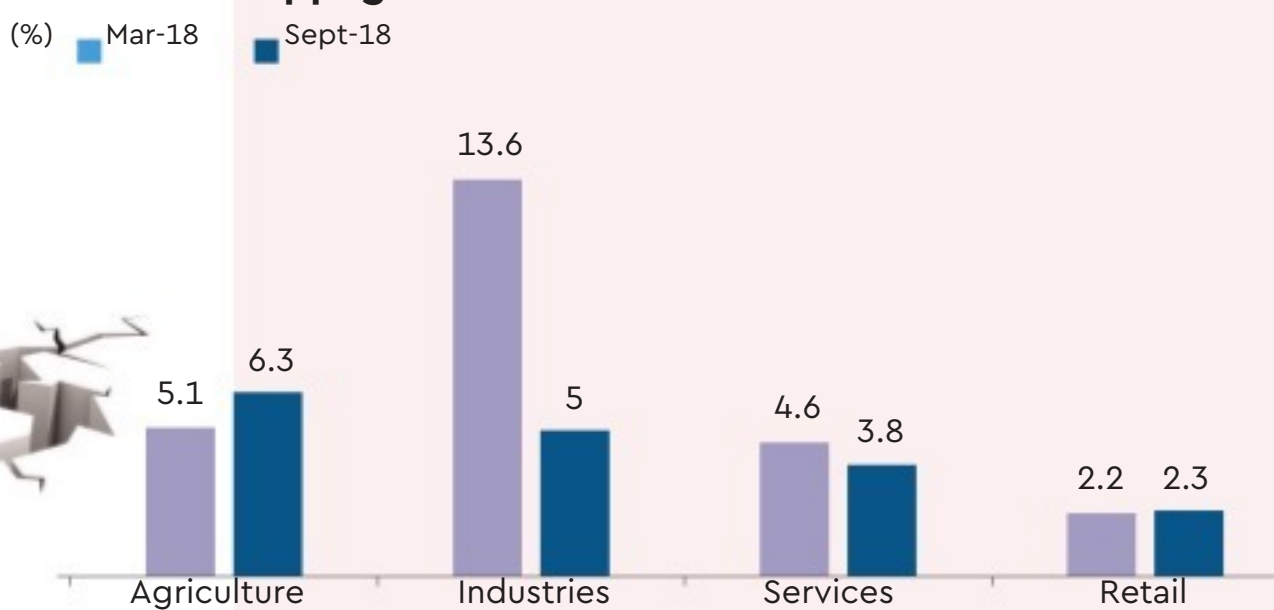


Note: Sample of 55 banks

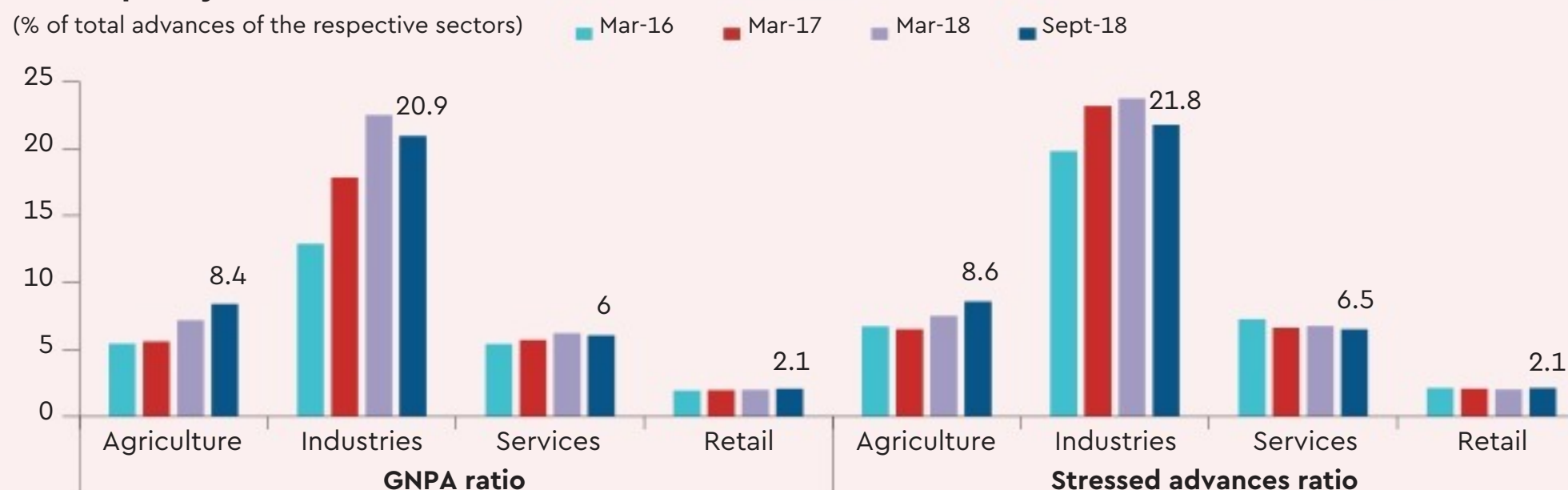
**Stressed advances ratio of SCBs**



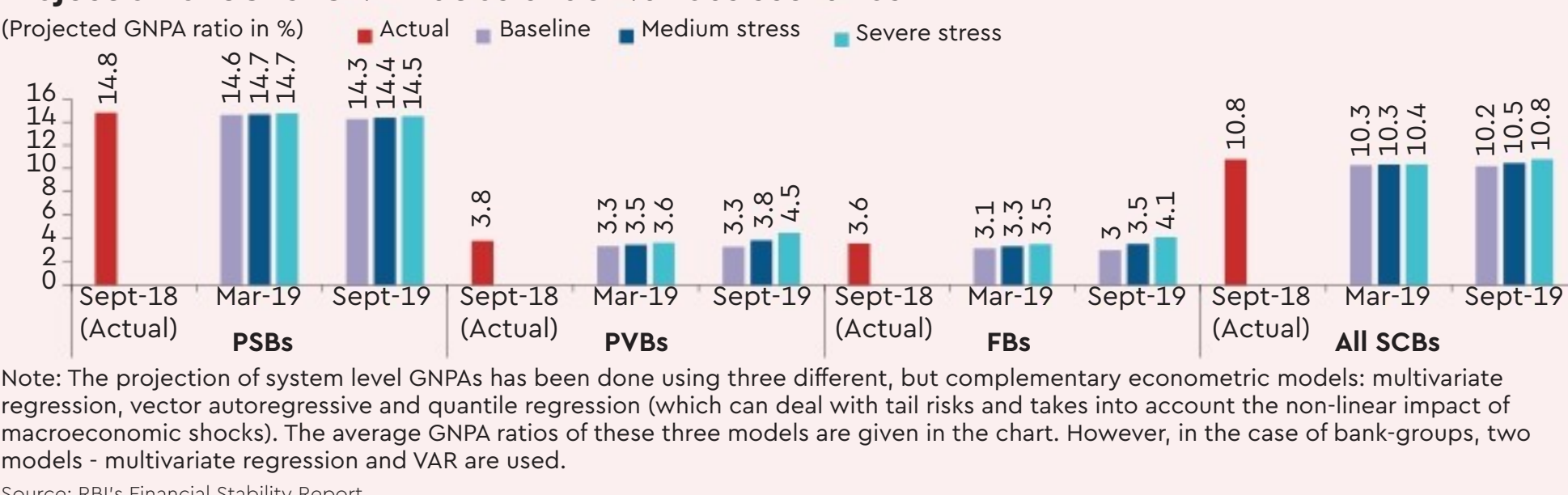
**Annualised slippage ratio of broad sectors**



**Asset quality of broad sectors**



**Projection of system level GNPA ratios under various scenarios**



Note: The projection of system level GNPA ratios has been done using three different, but complementary econometric models: multivariate regression, vector autoregressive and quantile regression (which can deal with tail risks and takes into account the non-linear impact of macroeconomic shocks). The average GNPA ratios of these three models are given in the chart. However, in the case of bank-group, two models - multivariate regression and VAR are used.

