Opinion

TUESDAY, DECEMBER 3, 2019

COMBATTING RAPE

Vice president of India, M Venkiah Naidu

“What is required is not a new bill. What is required is political will, administrative skill, change of mindset and then go for killing the social evil”

RationalExpectations

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Hamara Bajaj, *Tumhara* fear

Home minister Amit Shah's reply to Bajaj was pitch perfect, but there's enough evidence to show the govt doesn't like criticism

GIVEN THAT EVEN Rahul Bajaj's son Rajiv—he heads Bajaj Auto—disagreed with his father, it is not surprising that opinion is divided on what Bajaj senior said to home minister Amit Shah. While Rahul Bajaj had talked of how industrialists were scared to criticise the BJP—he added that most felt free to criticise UPA ministers when they were in power—his son said that he had read somewhere that courage is knowing that it may hurt and doing it anyway, and *stupidity is the same* (emphasis added).

While it is difficult to reply to such sweeping and multi-layered criticism—was Bajaj upset with the NDA's social or economic policies?—the home minister did an admirable job. He said that, in the past, lynching didn't get the kind of publicity it gets now and, given that no government had been criticised as much as the BJP has been, no one should worry about criticising the BJP. Shah added, and this is important, that if despite this, people were still scared to tell the truth to the BJP, the government would have to work to dispel this.

Even those who didn't find Shah convincing would agree, though, that Bajaj was guilty of fairly wild exaggeration. For one, given India Inc's penchant for marking even the most ordinary Budget 12 out of 10, it is difficult to believe industrialists openly abused UPA ministers. No top industrialists spoke up, for instance, against the UPA's blatant corruption/favouritism, of the type A Raja did in telecom, or when Pranab Mukherjee decided to overrule a Supreme Court judgment on Vodafone's tax liability and came up with his retrospective taxation; this dealt a body blow to India's reputation for being fair, but no one criticised it openly.

And, while some like Ratan Tata and Anu Aga came out against Narendra Modi in the aftermath of the Godhra violence, it is difficult to recall senior industrialists speaking out against top Congress leaders accused of being part of the anti-Sikh pogrom being given plum postings as ministers. If Indian industrialists are silent now, they were pretty silent earlier as well.

If lynching took place earlier too, did people attack the Centre as they are doing now? And, if the BJP is intolerant of criticism, did the Congress welcome it ...The media spinning stories in an anti-BJP way, or highlighting every fringe BJP MP, is a possible explanation—though with *Republic TV* and *Times Now,* Modi is hardly dealing with an entirely hostile media!—but, a large part of the criticism is due to how the BJP treats its critics.

Since India Inc rarely criticised UPA, Bajaj was exaggerating. And lynching took place earlier too, as Shah said. But holding back inconvenient NSS reports and going after Lavasa & Taseer reinforced image of govt disliking criticism

Some recent instances make this clear. Just before the elections, when there was talk of jobless growth, the government suppressed the NSS report on jobs. It is true the report was not comparable with earlier ones because of methodological differences, but instead of stressing this, the government refused to release the report. If jobs were growing the way the government claimed they were, why is the economy slowing so dramatically today? When, more recently, the NSS showed falling real consumption, the BJP buried the report again! Every serious analyst knows the shortcomings in the NSS data—it captures less of consumption than in the past—but, even if the report was biased, it was pointing to something, wasn't it?

Or take the case of Ashok Lavasa, the Election Commissioner who wanted the EC to ask Modi to cooperate in upholding the Model Code of Conduct, and who disagreed with the EC's clean chit to Modi using the Pulwama martyrs as a campaign issue. Since Lavasa served under the BJP for three years, as environment and finance secretary, you'd think he had been vetted and his work found good—why else did the BJP appoint him an EC? Yet, his family is under the taxman's scanner, and PSUs are being asked if his wife was appointed to their boards because of Lavasa's pressure.

And then, there is Aatish Taseer, the once pro-Modi writer who earned the PM's ire with his divider-in-chief piece for *Time* magazine just before the elections. Did the government really want to be seen as punishing a critic, especially one who many thought was pretty over-the-top anyway? More so since, after the furore, *Time* published a uniter-in-chief piece anyway. Yet, the government revoked Taseer's Overseas Citizen of India card, and 260 top writers, including Salman Rushdie and Orhan Pamuk, came out supporting him. Possibly, Taseer lied on his original OCI form several years ago (*bit.ly/2Y6pmQB*), but why not ignore him?

It is true that the same Lavasa, or his colleagues in the EC—most of civil society, actually—didn't think it was worth censuring Rahul Gandhi for repeating, in the run-up to the elections, without an iota of proof, that Modi had given Anil Ambani ₹30,000 crore worth of Rafale orders; indeed, Gandhi also told tribals that the crux of one of Modi's proposed bills was "shoot Adivasis with impunity" when the reality was a lot more complex.

But in acting against its critics—or justifying its actions by citing what the Congress did—the Modi government is just hurting its own prospects. Indeed, its demonising of JNU as a haven for anti-India elements in the past ensured that even when JNU students were in the wrong—they were paying 0.5% of what Delhi University students pay for their hostel!—a couple of weeks ago, the public sympathy was with the students. What was just a long-overdue fee hike became the case of a right-wing government trying to crush left liberal students!

Postscript: Cricketing legend Sunil Gavaskar was known as much for the strokes he played as the balls he left. Well-left is something the Modi government would do well to emulate.

DiallingDISASTER

A few more tariff hikes will save telcos from the near-certain bankruptcy that government inaction was leading them to

IT SPEAKS VOLUMES for how the telecom industry was brought to its knees that no one alleged cartelisation when, within hours of each other, Vodafone Idea, Bharti Airtel, and RJio said they would be raising tariffs; the first two have already announced 25-40% increases. Not surprisingly, given how it slept through RJio's below-cost pricing, the Competition Commission of India kept quiet when tariffs were raised, as did the telecom regulator, whose job is to ensure customers don't get rooked by cartelising telcos. This is not to say that telcos are ripping off customers; how can they when, between the pre-Jio situation and now, the average realisation per user (ARPU) has fallen from ₹174 per month to ₹113 while their data consumption rose from 153MB to 10GB, and voice minutes rose from 400 to 700? But, if the government or regulators are not going to examine cartelisation now, when will tariff hikes be seen as collusive; after ARPUs are ₹174 or 200 or 225? It is ironic, but while competition authorities normally strive to increase competition levels, by driving the industry to bankruptcy—by not cutting rapacious licence fee obligations, and by allowing RJio's predatory pricing—the government had a big role in the declining competition in the industry.

While it is difficult to prove that the government encouraged the tariff hike, what could have forced this change of heart is that, with Vodafone Idea perilously close to shutting down, the government realised that it stood to lose ₹200,000 crore of dues, and would have got just a fraction of this in the insolvency courts. And, with Vodafone alone having invested $30 bn, its shutting down—there is still the retrospective tax case!—would scare off most investors.

Right now, if the tariff hike results in an annual ebitda hike of ₹8,000-9,000 crore each for Vodafone Idea and Bharti Airtel—going by Kotak Institutional Equities' analysis—this will help keep them afloat even after the Supreme Court's (SC) Adjusted Gross Revenues (AGR) blow. But, as this newspaper has argued, the SC erred in its judgment since no independent authority had ever examined the government's view of what AGR must comprise. And, the AGR blow would have been a lot smaller had the government scrapped licence fees in 2010 as it should have. Since, by then, the government was charging an arm and a leg for spectrum, the earlier policy of high annual licence fees had to be stopped; you can't charge EMI for a flat as well as ask for the full payment upfront. While many in government argue that they can't scrap licence fees as they will lose revenue, they need to recall how, after the Atal Bihari Vajpayee government slashed telco fees by moving to a revenue-share regime, the government's revenues soared after a few years; by contrast, despite the high licence fees, government revenues fell from ₹70,241 crore in just FY17 to ₹39,345 crore in FY19; and, thanks to the government's actions, there is still the possibility that it could lose several lakh crore rupees of dues. This is mismanagement—by both UPA and the NDA—on a scale that's hardly ever seen before.

TAX REVENUES

STRUCTURAL AND OPERATIONAL REFORMS—REDUCING NUMBER OF TAX SLABS AND BROADENING THE BASE, ETC—MUST BE UNDERTAKEN ONCE TAX REVENUES BECOME RELATIVELY STABLE

Sequencing the GST reform

M GOVINDA RAO

Member, Fourteenth Finance Commission & former Director, NIPFP. *Views are personal*

AT LAST, AFTER four months, the GST revenue has crossed ₹1 lakh crore in November. That should bring in some cheer in an otherwise gloomy scenario. Of course, this too falls short of the monthly target of ₹1.18 lakh crore, and immediate measures are needed to improve tax compliance. There are many stories making rounds about the ingenious ways adopted to create a parallel informal economy. Therefore, the time is opportune to identify reform areas to increase revenue productivity and minimise administrative, compliance, and distortion costs.

It must be admitted that GST implementation has important positives. The most important gain is from the abolition of inter-state check-posts. It is estimated that the long-distance travel time for goods has reduced by almost 20%. The reform has also helped improve supply chain management by not requiring the creation of branch offices to avoid inter-state sales tax. Also, the abolition of inter-state sales tax has made the tax destination-based, and reduced inequitable inter-state tax exportation. Equally important is the compliance gain due to the exchange of information between the income tax and GST departments. A major gain is the reduced distortion due to cascading. Earlier, the central excise duty, levied at the pre-retail stage, cascaded into the final retail value. Also, the state value-added tax was levied on excise duty paid value. Besides, there was no systematic mechanism for providing input tax credit between excise duty and service taxes. Thus, there was tax on tax, tax on the margins, and margins on the tax, resulting in the consumer paying more than what the governments collected.

While these are the real gains, the stagnation of revenues is a major concern. The budget estimate for 2018-19 for the central government was ₹7.43 lakh crore—the actual collection was 22% lower at ₹5.81 lakh crore. In 2019-20, while the estimated monthly collection of GST is ₹1.18 lakh crore, the average monthly collection during the last seven months has been less than ₹1 lakh crore. The government is, thus, staring at a shortfall of ₹2 lakh crore for the whole year.

Equally notable are the shortcomings in the structure of GST. The problem includes large list of exemptions, multiplicity of rates, and exclusion of several items of consumption from the base. All this has resulted in erosion of the base and continued distortions. The decision to exempt almost 50% of the items in the Consumer Price Index basket has narrowed the base. The exclusion of petroleum products and electricity has rendered the reform only partial as almost 43% of internal indirect taxes at the Centre, and 40% of those at the state level are excluded from input tax relief.

The tax is levied at four different rates—5%, 12%, 18%, and 28%—in addition to the special rates on precious metals (0.25%), gold (3%), and job work in the diamond industry (1.5%). A special cess is also levied at varying rates on items in the 28% category and, in the case of some class of automobiles, there is a cess of 22%, resulting in the total incidence of 50%. Multiplicity of tax rates enhances administration and compliance costs, enables misclassification, and, in some cases, causes inverted duty structure. Moreover, high tax rates on automobiles, and building and construction material at a time when demand conditions are compressed have caused further slowdown in these sectors. There are infirmities arising from the rate variations according to use of product, value of product, and lower rates on items considered as inputs as compared to those judged to be outputs. These cause distortions as well as compliance problems.

The most important measure needed, at present, is to stabilise revenues. This requires better compliance with the tax, for which the major action needed is to stabilise the technology platform. The originally proposed three forms—GSTR-1, GSTR-2, and GSTR-3B—could not be operationalised. The summary form, GSTR-3B, does not provide the information required for invoice matching. As the filing of the annual returns, too, is being repeatedly postponed, there is no mechanism to match invoices; this has given rise to a fake invoice industry. So far, 9,385 cases of tax fraud by this means have been detected, involving an amount of ₹45,700 crore. The undetected amount would be much larger. In addition, the dysfunctional technology platform has resulted in integrated GST allocation to states in *ad hoc* ways, and has caused delays in refunds to exporters; small scale industry has particularly been at the wrong end of this.

Reducing the number of tax rates is important, and it should begin by getting rid of the 28% category altogether

Firming up the IT platform will be greatly helped if the threshold is kept at ₹50 lakh. Data for 2017-18 from Karnataka shows that 93% of taxpayers had less than a ₹50 lakh turnover; they accounted for 6.5% of the turnover and 12% of the tax paid. It is important to focus on the "whales" rather than the "minnows". Second, 100% invoice matching is not followed anywhere. Korea tried to do this, but had to give up. E-invoicing could be done, but for the immediate purpose, it may be desirable to confine the matching to invoices above a certain value—say ₹10,000.

Once, a measure of stability is brought into the revenues, it is easy to undertake reforms in the structure and operational details. Reducing the number of tax rates is important, and it should begin by getting rid of the 28% category altogether and transferring them to the 18% slab. The revenue from this category, including the cess, is reported to be 22% of the total. At a lower rate, the demand would be higher, and the loss of revenue will be lower. Simultaneously, it is desirable to prune the list of exempted goods and services. Only those that are difficult to tax for administrative reasons should be exempted, and many of the items under 5% should be moved to 12%. In fact, equity is better served through targeted cash transfers, and not by differentiating tax rates. Besides, calibrating tax rates based on consumption pattern alone ignores the employment potential from these sectors. In the next stage, the 12% and 18% categories can also be merged at 15%. This will simplify the tax system into two main rates. As the revenue stabilises, petroleum products and electricity could be brought within the ambit of GST. All these reforms should be sequenced and calibrated over a period of two-three years.

At present, the GST Council relies on the analysis done by the "fitment committee", which consists of the nominated officials of the Tax Research Unit in CBIC, and officials of the commercial taxes department from some states. For a major reform like the GST, it is important to have a strong technical secretariat, with experts in administration, economics, accountancy, and law to present the Council with options to take informed decisions based on rigorous research. Equally important is the need to make all data that is not sensitive to enforcement available in the public domain for independent researchers. Reluctance to share the data is a major constraint for undertaking independent research.

Taxing C-suite salaries defies global norm

The provision of levying tax on inter-branch cross charges is unworkable and increases compliance costs for businesses. It must be repealed

RAHUL RENAVIKAR

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RECENTLY, THERE WAS hue and cry concerning the application of GST on the allocation of head office costs of an organisation to its branch offices in different states. It was reported in the media that the government intended to recover GST on cross charges on account of allocation of common costs, including salaries of CEO, CFO, IT support, administration support, etc. The government quickly issued a press release and clarified that there was no intention to levy GST on salaries of the 'C' suite of an organisation as the services provided by an employee to the employer are neither a supply of goods nor a supply of services, and hence, do not attract any GST. So far, so good. However, in the same press release, the government clarified that, following global practice, GST will apply to cross charges for inter-branch supplies of goods and services, which, of course, include the salaries of employees. This appears to confirm the fear of taxpayers rather than allaying it. Further, it stated that the GST so charged by one branch to another is available as an input credit, and hence, is not a cost to business.

Many companies follow the accounting practice of allocating common costs amongst various locations within the organisation, especially to determine the profitability of different profit centres within the organisation. Under India's dual GST, supplies in a state attract the central GST and also the state GST. Further, a branch of an organisation located in another state is treated as a "distinct person"; any inter-state activity between the head office and a branch, or between two different branches, is treated as a 'supply' and is subject to the GST levy.

Rather than being a common global practice, India is the only country in the world that applies tax on activities between two branches of the same legal entity. In other jurisdictions, flow of goods or services between two arms of the same legal entity is not considered a supply and isn't subjected to GST. This reflects the logic that one cannot transact with oneself; you need two to tango. The Indian GST, on the other hand, requires a business entity to register separately in each of the states where it operates, and deems any inter-branch flow of goods or services to be a supply, subject to tax. It is through this deeming fiction that an allocation of head office salaries among the branch is considered a charge for a taxable supply by the head office.

It may be argued that the state-wise registration of each legal entity is necessary for the levy of the state GST. But, this need not be so. Canada also levies a dual GST, but there is no requirement of multiple registrations in each of the provinces where companies operate a business. The two taxes are collected by each legal entity, but under a single registration. In China, individual operating units or branches are required to have separate registrations for VAT, but there is no provision deeming inter-branch activities to be a supply of service that is subject to tax. As there is no fiction of a person making a supply of services to oneself, allocation of CEO, CFO, or other salary costs to branches does not attract any VAT or GST.

This feature of the Indian GST is, thus, without any international precedent. More importantly, it is unworkable. There is no clarity on which inter-branch activities constitute a supply, and how they are to be valued for applying the tax. Does the exchange of information on business performance (MIS reports) between a branch and the head office constitute a supply of service, subject to an 18% tax? What about the inputs provided by different operating units to the head office in raising capital, in managing cash flow, or in developing sales/marketing plans? How are these fictional supplies to be identified and valued? Organisations do allocate some of the common costs among various operating units, but there is no consistency in the practices they follow. It is for this reason that few business entities are currently complying with the GST law and remitting tax on inter-branch service activities. The tax authorities have also not provided any guidelines.

These provisions are a significant contributor to the complexity of GST. Multiple registrations increase the compliance load several-fold. They also add to the costs of administration, with not a *paisa* gained in revenues. Each registration is treated as a separate pocket, and no offsetting or consolidation of positive and negative balances in different accounts is allowed. This increases the working capital requirement of businesses. There are complex provisions for inter-branch distribution of input tax credits, which would not be needed under a single registration system.

The government press release says that the GST imposed on inter-branch supplies is not a cost to business as it is available as an input tax credit for the recipient branch. This is true only in theory; in practice, organisations dealing in a mix of taxable and exempt supplies (e.g., banks, companies dealing in basic food, alcohol, petroleum, electricity, real estate, and hospitals, etc) are allowed only a partial credit. Where the tax is fully creditable, why impose the burden of computing the tax on fictional supplies and then giving it all back?

The government has been very accommodative since the launch of GST in July 2017. Following global practices, it should repeal the provisions applying the tax on fictional supplies in the form of inter-branch cross charges. As they are unworkable and few companies are complying with them fully, their repeal should have no adverse impact on revenue, but would save the country wasteful spending on workaround solutions.

LETTERS TO THE EDITOR

Going green

When it comes to municipal administration, the Bruhat Bengaluru Mahanagara Palike (BBMP) would do well to borrow a leaf out of Indore's book. The city has been declared the cleanest city in India for three years in a row. Now, in another move that is worthy of emulation, the district administration and municipal employees of the city have decided to use public transport to reach their offices every Friday. Besides encouraging use of public transport and decongesting roads, the objective is also to demolish the myth that only people who cannot afford cars travel by buses. The collector has appealed to private organisations to encourage their employees to use public transport at least once a week, and given the fact that the people of Indore have been extremely supportive of the administration's initiatives, there is no doubt that this project too will be a success.

— Tarique MERC, on email

Deterring crime

It is heartening that Telangana Chief Minister K Chandrasekhar Rao has ordered the setting up of a fast-track court for the expeditious trial of the Hyderabad woman veterinarian murder case, besides assuring the victim's family of all help. Public fury over the ghastly crime has sent shock waves across the country, and protesters have even demanded that the accused be handed over to them. The authorities have also done well to suspend three police personnel for an alleged delay in registering an FIR. Coming down hard on criminals and handing them exemplary punishment is the only way to deter them from treading the wrong path.

— N J Ravi Chander, Bengaluru

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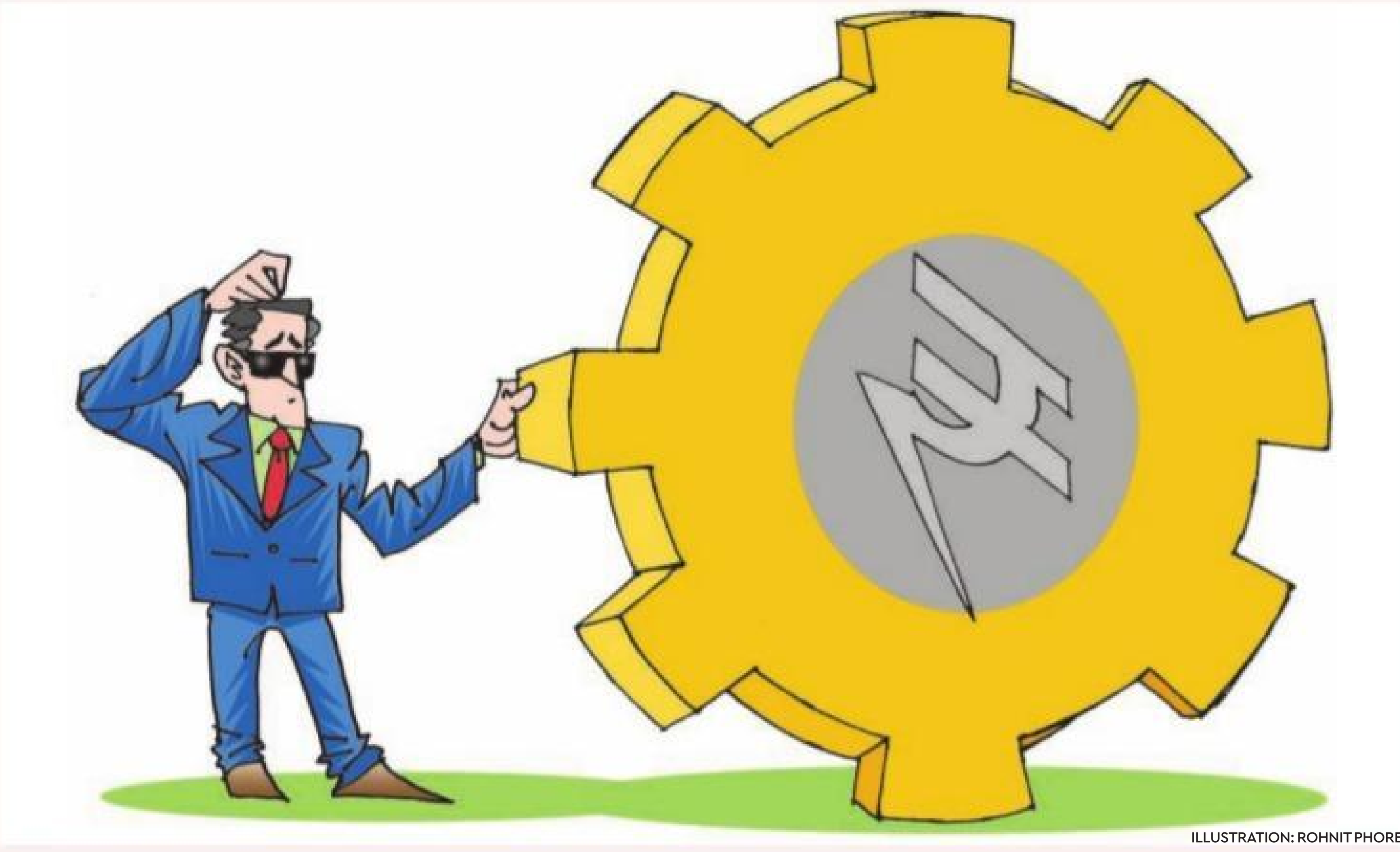
R.N.I. Reg. No. 6188/61 Printed for the proprietors, The Indian Express (P) Ltd by Vaidehi Chintaman Thakar at The Indian Express (P) Ltd Press, Plot No. EL-208, TTC Industrial Area, Mahape, Navi Mumbai-400 710 and published from Express Towers, Nariman Point, Mumbai-400 021. Editorial & Administrative Offices: Express Towers, Nariman Point, Mumbai-400 021. Phone: 22022627/67440000. Fax: 022-22856323.
Chairman of the Board: Viveck Goenka, Managing Editor: Sunil Jain, Resident Editor: Malini Bhupta* (*Responsible for selection of news under PRB Act)



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TELANGANA

Indebted to growth

When elongation of debt maturity structure is crucial for economic growth

THE NEWEST STATE of India, Telangana, since its formation, is on the high growth trajectory and the economy is growing at a higher rate than national GDP growth. The state was formed on June 2, 2014, as per the Andhra Pradesh Reorganisation Act, 2014. The state maintains a zero revenue deficit, satisfying the "golden rule" of the FRBM (Fiscal Responsibility and Budget Management) that a state must meet its revenue expenditure from its revenue receipts. But Telangana has a fiscal deficit-GSDP ratio slightly higher than the FRBM-legislated threshold at 3%.

The outstanding liability of the state is around 22% of GSDP, when the FRBM stipulates it to be only 20%. Laudable are the achievements of the new state in terms of economic growth, but macro-fiscal fundamentals like fiscal deficit and outstanding debt not in concomitant with the FRBM targets is a concern. Telangana has formulated a medium-term fiscal framework to work towards stipulated threshold in debt-deficit dynamics.

According to the 14th Finance Commission, had the state been maintaining fiscal deficit at 3%, and the outstanding debt-to-GSDP ratio below 25% (along with a macro-fiscal ratio of interest payment to revenue receipts at 10%), it would have been eligible for 0.5% additional borrowing power. But Telangana missed this extra borrowing power granted by the 14th Finance Commission.

Yet another point to be noted is that states have significantly resorted to market borrowing in financing the fiscal deficits (following the recommendations of the 14th Finance Commission) to exclude states from the National Small Savings Fund (NSSF) financing facility (except Delhi, Madhya Pradesh, Kerala and Arunachal Pradesh). The power bond scheme titled UDAY (Ujwal Discom Assurance Yojana) has deteriorated state finances further. The RBI State Finances report 2019 noted that the "state governments are mandated to fund a progressively greater share of discom future losses from their own finances, and prevent ballooning of losses on discoms' books. The impact of this provision on state finances could increase significantly in 2019-20 and 2020-21 due to: i) higher share of losses to be funded; and ii) reduction in revenue benefits to discoms from the conversion of state government debt into grants on account of varied debt restructuring models adopted by state governments." The NIPFP study on power bonds by this author and Amandeep Kaur showed that there is no financial efficiency or operational turnaround in discoms across states, ex post to UDAY.

On the expenditure side, Telangana has ambitious projects. It was the first state to announce an income support scheme for farmers, among the other five states in 2019-20. This is in the form of unconditional cash transfers to farmers, instead of providing them loans. Farmers' credit waiver has created "moral hazard" issues. The RBI State Finances report noted that these income support transfers are categorised as "Green Box payments" within the framework of the World Trade Organisation (WTO). The new state has given importance to capital projects. The flagship capital projects in Telangana include public irrigation projects and a comprehensive drinking water programme termed "Mission Bhagiratha" to provide safe drinking water to all the households. On the revenue side, given the uncertainties in GST revenue, taxes are buoyant and estimates are above unity.

Given aspirational development agenda of the state, it is a challenge to maintain the stipulated growth path at 14-15% while adhering to fiscal rules by containing debt-GSDP ratio at 20%

The intergovernmental fiscal transfers from the 15th Finance Commission are a potential source of revenue to finance their ongoing capital projects. The chairman of the 15th Finance Commission, NK Singh, during the commission's state visit noted that though capital projects in Telangana have a multiplier effect on economic growth, the rising debt and deficit is a matter of concern. The state has echoed the concern that the potential significant weightage to "population 2011" in the forthcoming tax transfer formula of the 15th Finance Commission can plausibly reduce fiscal transfers to Telangana, unless the commission designs a transfer scheme to mitigate this potential loss to those states that have well managed demographic transition.

Given the aspirational development agenda of the new state, it is a formidable challenge to maintain the stipulated growth path at 14-15%, and even at the projected 20% in the long run, while adhering to fiscal rules by containing the debt-GSDP ratio at 20%.

Against this backdrop, Telangana has adopted a new debt strategy. The state has decided to go for elongation of maturity structure of outstanding debt. The RBI State Finances report noted that elongation of maturity structure of debt is important to mitigate "roll-over risks and debt servicing costs, which impinge on the efficacy of debt management strategies." Satyajit Chatterjee and Burcu Eyigungor, in their paper titled "Maturity, Indebtedness, and Default Risk" published in the American Economic Review (2012) noted that when the possibility of self-fulfilling rollover crises is taken into account, "long-term debt is superior to short-term debt." This study was conducted in the context of Argentina. The other plausible benefit of long-term bond issuance is that it can fix the yield rate at current levels of interest rate scenario, and also act as "reference rates."

The recent OECD Sovereign Borrowing Outlook report also showed that the share of long-term debt in the central government marketable debt reached 90% in 2015 in the OECD region, and is projected to rise gradually. This relatively high level of longer-term debt redemption profile in the OECD region is to limit the potential rollover risk and to make the debt portfolio resilient. The RBI State Finances report emphasised that, in India, the maturity structure of debt of the government of India has been steadily increasing, with the tenure of the longest sovereign debt security being 40 years.

The maturity pattern of outstanding debt across Indian states and Union Territories has also been increasing (see table). As noted by RBI, since 2015-16, 15 state governments including Telangana and the UT of Puducherry have issued longer tenor securities. Among these states, Telangana has the longest tenor for state government securities, with the debt maturity profile being 30 years. This is instructive, and of interest to public policy researchers, how a state within the framework of fiscal rules manages to keep aspirational choices to take itself to higher growth trajectory. This is also challenging, especially when there is no "economic convergence" in the state, with the poor regions "catching up" with the rich regions, and the spatial inequality "within the state" significant. It is to be noted that only four districts, including Hyderabad, are contributing around 50% to the state's growth, and the rest of the regions require high investment to reach the comparable growth trajectory within the state. The "fiscal agency" of the new state is thus grappled between the "equality in processes" and "equality in outcomes."

Maturity profile of outstanding state* govt securities (as % to total)

State/UT	Andhra Pradesh	Gujarat	Haryana	Maharashtra	Odisha	Telangana	Puducherry	All state and UTs
2019-20	7.6	5.7	2.8	6	3.6	-	9	5.3
2020-21	7.6	6.4	3.2	7.4	8.9	-	10.8	5.3
2021-22	8.3	9.8	7	10.9	12.4	-	9.6	7.3
2022-23	9.8	8.2	10.3	8.8	12.5	0.9	9.1	7.7
2023-24	11	8.1	12.2	9.3	13	0.9	9	8.3
2024-25	8.8	8.3	11.9	9.8	3.6	8.7	8.5	9.3
2025-26	8.9	8	13.7	12.7	7.1	14.2	8.1	11.5
2026-27	7.9	10.7	12.4	12.7	7.1	16.7	5	13.1
2027-28	5.5	13.4	11.8	6.2	1.8	0.9	7.2	11.8
2028-29	6.1	20.3	5.3	5.1	1.8	0.9	4.5	11.4
2029-30	4.1	-	-	5.5	3.6	0.9	4.1	1.3
2030-31	3.4	1.1	-	-	-	0.9	4.5	1
2031-32	3	-	-	2.1	8.6	4.4	10.4	0.9
2032-33	3.7	-	-	3.5	3.6	4.7	-	1.6
2033-34	2.5	-	1.4	-	1.8	-	-	1.4
2035-36	0.2	-	0.5	-	5.4	-	-	0.1
2036-49	1.7	-	7.5	-	5.4	46.2	-	2.9
TOTAL	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

*Select states; (outstanding as on March 31, 2019); Note: compensation bonds, loans not bearing interest and special bonds (UDAY) are not included.

Source: RBI records

BIT BY BIT

Going beyond face value

NANDAGOPAL RAJAN

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Face recognition is changing how we unlock phones, authenticate transactions

IN PHILIP PULLMAN'S fantasy trilogy '*His Dark Materials*', every character has a daemon, an animal that manifests the inner self of a person. For us, the daemon would be our smartphones, capturing our souls in the palm of our hands. But how do we protect something so precious from prying eyes? With these small devices carrying everything from access to our corporate identities to our secret lives, smartphone companies have been stressing on the need to add screen locks to prevent others from accessing our phones. Over the years, companies have offered everything from number locks to patterns and even fingerprint scanners to protect phones, and for authentication in place of passwords or to initiate payments.

Of late, there has been a move towards the phone recognising user's face and then opening the screens for her. Samsung has, for instance, experimented with iris scanners, and has settled with face unlock, where the phone matches 'face' to what it has in its records. A lot of other Android phones, too, use face unlock in one way or the other. Apple, meanwhile, has been using Face ID, which is more complex than face unlock on Android phones, as it uses more layers of data.

Kaiann Drance, V-P, product marketing, Apple, recently told me how Apple's technology is different. Face ID, Drance explained, utilises some of Apple's most sophisticated technologies like the TrueDepth camera, the secure enclave on the chip, and the neural engine. In simple terms, TrueDepth looks for the face when you wake the iPhone up by raising it or simply tapping the screen; when the face is detected, Face ID confirms user's attention and intent to unlock it by detecting if the eyes are open and are directed towards the camera. This process ensures spoofing is near-impossible and reduced to a one-in-a-million possibility. On top of this, the phone locks itself if there have been five failed attempts to unlock using Face ID.

In India, a bunch of financial services apps, from ICICI to Paytm Money and HDFC Bank, have started using face recognition, negating the need to enter a PIN for transactions

But those who have used Face ID on an Apple phone, first introduced with the iPhone X, would have noticed how this works even if you are in a dark room. This is because the TrueDepth camera system has an inbuilt dot projector that puts 30,000 invisible dots on the user's face to build out a unique facial map. This works along with the flood illuminator to identity a face even in the dark. According to Drance, facial authentication technologies that don't have this layer don't work well in the dark, and can potentially be spoofed by a photograph as these don't have depth information or a facial map to match against.

Face ID and other such technologies are now getting widespread acceptance as a secure authentication method. Just in India, a bunch of financial services apps, from ICICI to Paytm Money and HDFC Bank, have started using this, negating the need to enter a PIN for transactions. I personally use it to secure my blood sugar data on the OneTouch app. Also, on Apple devices, a lot of passwords will auto fill if the phone detects the user's face. Interestingly, Apple does all of this on the device and no data needs to be backed up to the cloud. Even natural changes to the face are factored in, as it has trained multiple neural networks to see if there are changes every time it looks at the user, and then make that adaptive change. Drance said this meant training the network with over 2 billion images, including infrared and depth images collected in extensive studies.

In the coming months, you can expect more devices to unlock when it sees the user's face, even as across other devices this becomes a standard way to authenticate if the user is genuine. This will also lead to a lot of new use cases. If the computer is able to verify a user this accurately, then you could even be doing job and visa interviews remotely. A lot of instances where personal presence is now needed could be replaced by videoconferencing. The possibilities are endless.

A different downturn

This is India's first ever slowdown at a time of political as well as macroeconomic stability

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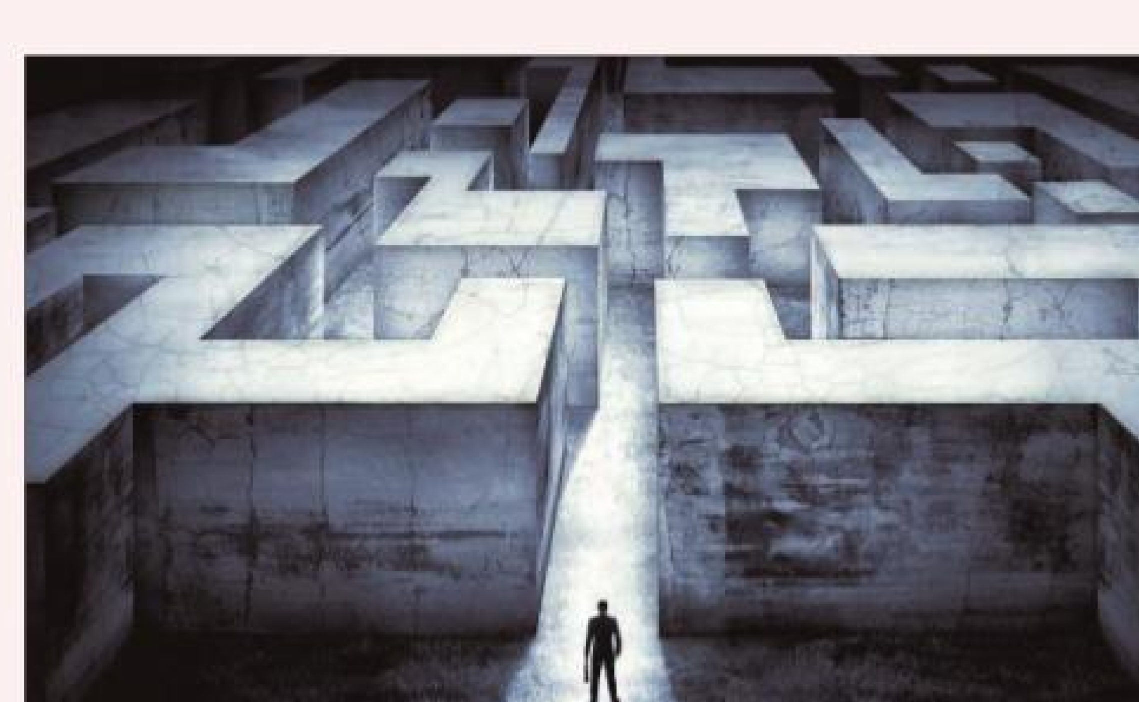

SHARP AND PROTRACTED economic slowdowns aren't new to India. Since Independence, there have been at least eight episodes of significant GDP growth rate declines over two years or more—1961-62 and 1962-63, 1965-66 and 1966-67, 1971-72 and 1972-73, 1984-85 to 1987-88, 1990-91 to 1992-93, 2000-01 to 2002-03, 2012-13 and 2013-14, and the current one from 2018-19.

The slowdowns till the 1980s were mostly a result of drought-induced agricultural contractions, wars or balance of payments (BoP) pressures. Shortage of foreign exchange for imports, even of essential materials or components and spares used in capital goods, besides austerity measures introduced after the 1962 Sino-Indian War, caused the first growth dip episode. Back-to-back droughts and a BoP crisis leading to the 36.5% rupee devaluation of June 1966, likewise, precipitated the second downturn, while it was a combination of the 1971 Indo-Pakistan War and the 1972 famine in the case of the third. The 1980s saw three consecutive drought years—1985, 1986 and 1987. Its impact on the broader economy was predictable, given the farm sector had a roughly one-third share in India's GDP even at this point in time.

Only during the past three decades has agriculture's role in bringing down or pushing up overall growth diminished relative to other macroeconomic factors. Thus, both the early-1990s slowdown and the one in the last two years of the United Progressive Alliance (UPA) regime were preceded by "twin deficits"—on the fiscal and external current account fronts. The growth slump of the early-2000s during the Atal Bihari Vajpayee-led National Democratic Alliance (NDA) government had mainly to do with the after-effects of the 1997 Asian financial crisis, the sanctions imposed by the US and other countries following the 1998 Pokhran nuclear tests, and the end of a mid-1990s corporate-driven mini-investment boom.

The current slowdown—GDP growth has dropped in every quarter from January-March 2018 down to July-September 2019 and showing little signs of recovery—is unique by contrast.

Firstly, it has taken place amidst remarkable political stability, with the unquestioned leader of a single-party majority government at the helm. This was not so with the UPA, Vajpayee's NDA or the 1991 minority Congress government of Narasimha Rao. Narendra Modi's popularity is probably rivalled only by Indira Gandhi. But she was a relative novice as Prime Minister during the 1966 devaluation and emerged as a truly strong leader only after the 1971 general elections, which were held before the economy went into a tailspin. One could similarly argue that Jawaharlal Nehru was well past his prime when India's first major downturn happened. That leaves only Rajiv Gandhi, who took over after his mother in 1984. However, he never enjoyed the cult status or credibility that Modi today commands.

Secondly, this slowdown isn't courtesy the usual "F" suspects—food, foreign exchange and fisc. Not only does agriculture account for hardly 15% of India's GDP now, annual consumer food price inflation, too, has averaged a mere 1.59% between October 2016 and October 2019. There has been no BoP crisis either; foreign exchange reserves were, in fact, at a record $448.6 billion as on November 22. The Modi government may have deviated from the original schedule of reducing the fiscal deficit to 3% of GDP, but the average figure of 3.7% for 2014-15 to 2018-19 is much better than the 5.4% during the previous five years under the UPA.

The Modi period, if anything, has been marked by both political and macroeconomic stability. Nor has it been witness to "external" disruptions in the form of wars or oil price surges. Even the US-China trade conflict from 2018 is not comparable in its effects on the Indian economy to the 2008 Global Financial Crisis or the 2013 "taper tantrum". In any case, it's not as though India's exports were really booming before 2018.

Unlike all the earlier downturns whose precursors/triggers were supply-side constraints in food and forex, macroeconomic imprudence or external shocks, what we are now experiencing is more of a "western-style" slowdown exacerbated by internal policy misadventures. At the heart of it has been the twin balance sheet (TBS) problem—of debts accumulated by private corporates during the investment binge of 2004-11 turning into non-performing assets of mainly public sector banks. A similar bad loan build-up did take place even in the mid-1990s, forcing the subsequent cleanup of bank balance sheets and deleveraging by India Inc that also impacted growth during the Vajpayee government period.

But the difference between then and now is how the TBS problem, despite being flagged way back in December 2014 by the former chief economic adviser, Arvind Subramanian, has been allowed to fester—and spread to sectors such as non-banking financial companies and real estate that have far more contagion effect than steel, power or textiles. Even worse is the self-inflicted wounds from demonetisation and the unprepared rollout of the goods and services tax (GST), hitting those who were least responsible for the TBS problem: Farmers, petty producers and MSMEs. Job and income losses in the informal sector have, in turn, depressed consumption demand, including for the products of listed firms and other organised players that were supposed to have benefited from demonetisation and GST.

If indebted corporates, risk-averse banks and the more recent credit crunch resulting from defaults by the likes of IL&FS, Dewan Housing Finance and Altico Capital—these are threatening to spill over to other financial and real estate-linked entities—have come in the way of investment demand picking up, consumption also taking a hit makes for a gloom-and-doom narrative.

The irony, of course, is that all this comes at a time of great political as well as macroeconomic stability. This is, indeed, a first-of-its-kind slowdown in India, where food, foreign exchange, oil, war and other "supply-side/external" factors have had no role. And if economic history is any guide, Western-style slowdowns, which are largely about crisis of confidence, sentiment and "demand", tend to be long-drawn-out affairs. Controlling inflation may be easier than getting consumers to spend and firms to invest.