Opinion

THURSDAY, MAY 16, 2019

ENERGY AND AURA

US president Donald Trump

"(Bernie Sanders) has a lot more energy than Biden. But it's energy to get rid of your jobs. He's got the opposite energy that you produce. Not good energy, you don't like his energy"

An apology for justice, where is this going to stop?

SC erred badly in insisting that Priyanka Sharma apologise for sharing a meme; should have censured WB cops the first day itself

THE WEST BENGAL police clearly erred in arresting BJP youth wing functionary Priyanka Sharma for sharing a morphed picture of the state's chief minister Mamata Banerjee—her face was morphed on to the body of actor Priyanka Chopra who was attending the recent Met Gala—on social media since, by no stretch of the imagination, could this be construed a crime or an attack on the chief minister's rights or freedom. The morphed picture wasn't particularly funny—but Sharma wasn't arrested for her poor sense of humour—but the point is that cartoonists make fun of politicians for a living every day, as do stand-up comedians, so if offence is going to be taken so easily, a lot more people will be jailed every day. Given this, when the case went to the Supreme Court on Tuesday, it was expected it would take less than a minute to grant Sharma bail—that is a right everyone enjoys in most cases—and to censure the West Bengal police for the uncalled for arrest. Instead, the vacation bench judges asked Sharma to apologise to the chief minister at the time of her release—and Justice Indira Banerjee said "freedom of speech is non-negotiable, but your freedom of speech ends where it violates someone else's rights." On Wednesday, after the furore over it asking Sharma to apologise, the SC said the arrest was *prima facie* arbitrary.

Indeed, given how most Indian politicians take offence at such humour—even parties that now preach the virtue of tolerance and promise to revoke the anti-sedition law have jailed cartoonists in the past—it was hoped the Supreme Court would put an end to this by keeping the bigger picture in mind. Its insistence on an apology if the BJP youth activist is to be released, however, shows that it is not. Interestingly, as *The Indian Express* cartoonist EP Unny pointed out in an article on Wednesday, politicians seem to have become thinner skinned over the years. While giving the example of various cartoons that have attracted the ire of political parties in the recent past, he recalls Abu Abraham's cartoon on president Fakhruddin Ali Ahmad signing an ordinance while in the bathtub and angrily telling his attendant "if there are any more ordinances, just ask them to wait"; amazingly, this appeared at the peak of the Emergency when civil liberties were mostly given the go by. In response to one cartoon that lampooned the DMK a few years ago, Unny recalls the Madurai bench of the Madras High Court as having said, in 2018, "to apply the yardsticks of defamation in the case of cartoons, the threshold must be very high ... law envisages a reasonable person and not a touchy and hypersensitive individual". Pity even the Supreme Court doesn't seem to have taken this advice.

The Supreme Court is at pains to point out that, had the re-posting not been done by a political person, it may have acted differently, which is why its order talks of "the special circumstances of the case". But this is precisely the problem, why should the rules of satire apply differently? Will actor Urmila Matondkar, a Congress MP candidate now, be asked to give an apology by the Supreme Court for her tweet making fun of prime minister Modi's statement that, while the Air Force was in favour of pushing back the Balakot strikes because of bad weather, Modi felt the cloudy weather would reduce the ability of Pakistan's radars to spot India's planes; along with a picture of her with her dog, the tweet says "thank God for the clear sky and no clouds so that my pet Romeo's ears can get the clear RADAR signals", and this is followed by a smiley! It is not clear which is worse, the Supreme Court taking such a hard line on humour or taking out so much time for such unimportant cases—the case is to be heard again—while there are crores of pending cases.

Why push cards over UPI?

With low rural card-usage, banks don't want to set up ATMs

THE GOVERNMENT HAS reportedly pulled up banks for not putting in place enough point of sales (PoS) terminals for credit and debit cards. Against a target of 2 million machines—mobile and physical—banks appear to have installed some 6.5 lakh machines. That's not surprising because installing PoS machines can be an expensive proposition. And while banks may want the millions of RuPay cards they have issued to be used, there is the cost of running and maintaining the machines. The government's dissatisfaction over the small number of machines placed in rural areas is misplaced given the usage in rural India is very low. Indeed, it is unfair on the part of the government to impose targets without assessing the costs and subsidising the effort. That apart, the MDR (merchant discount rate) is also an issue; vendors are unwilling to bear the cost and are unable to pass on the costs to customers. The government also needs to accept that cash transactions remain tremendously popular. Much of the enthusiasm seen post-demonetisation seems to have been lost, partly because GST rates are too high. This is borne out by the sharp jump in the currency in circulation, even if some of the increase is due to the general elections. In small-town or rural India, where much of earnings are in cash, it is no surprise that the preferred mode of payment, too, is cash.

Rather than coercing banks into distributing PoS machines, the government needs to push the BHIM app and the Unified Payments Interface (UPI) in general. Digitisation, other than via cards, is catching on going by the reported transactions on the UPI platform; in January, the value of transactions was ₹1.09 lakh crore, higher than the ₹1.05 lakh transacted via credit and debit cards. In March, the value of UPI transactions was ₹1.33 lakh crore compared with the total value transacted via cards of ₹1.1 lakh crore. Now, the government wants transaction-volumes of 40 billion clocked in the current year; of this, banks are expected to clock 34 billion. While players such as Google are driving digital payments, the key to pushing digitisation is to persuade vendors to opt for UPI. Once they are converted, customers will follow. After all, 800 million bank accounts are linked to mobile phones and should be transaction-ready. The data trail from GST should help bankers assess the creditworthiness of MSMEs and lend to them at more affordable rates. Currently, the card piece of digital transactions is a loss-making proposition for banks, but they are otherwise inclined to encourage customers to transact digitally through their apps. Unfortunately, most state-owned lenders aren't pushing digital transactions, probably because the technology costs are very high. Some support from the government to these banks could be a big boost for digitisation.

RenewablesPUSH

India's energy investment particulars show the country is committed to climate change mitigation

THE 4TH WORLD Energy Investment (WEI) report published by International Energy Agency (IEA) highlights that investment in India's energy sector has grown the most in the last three years. The USA accounted for the most growth in the energy supply investment this decade with India being the second in the decade. However, in the last three years India has invested the most as compared to China or the USA. The report states that India's investment in the energy sector grew at a record of 12% (2015-18), to around $85 billion. Globally, spending on non-renewable resources has increased resulting in a counter-balance to the investments made in the renewable sources. This has led to an imbalance between the current trends on one hand and the sustainable development goals (SDGs) and the Paris Agreement on the other.

Where India deserves rich praise is in the way it has boosted investment in the renewable energy sector—in the last three years, the country's investment in renewable sources have surpassed investments in fossil fuels. The credit goes to the government policies supporting solar PVs and wind energy. Grid investments have increased by 4% even as the investment in coal supply grew by 5% in 2018. In the other sectors, it is reported that electronic vehicle charging stations growth has been 60% to over $3 billion, and digital grid technologies by 10% to over $35 billion. New vehicle standards in India (2018) will push up efficiency-related spending. In Asia-Pacific, India is emerging as a preferred destination for investment in industrial energy efficiency, backed by modernisation of industrial facilities and government policy such as the Perform, Achieve, Trade (PAT) Scheme. The report showcases India's commitment to the Paris Agreement COP-21 and energy security, wherein in its Intended Nationally Determined Contributions the first two commitments included; reduction of emissions of its GDP by 33-35% by 2030, and to achieve 40% cumulative electric power installed capacity from non-fossil fuel based energy source by 2030. But, India, or a handful of other nations that seem committed to a below 2°C warming future, alone can't take on the heat of climate change mitigation.

POLL FERVOUR

INCREASED VOTER TURNOUT REMAINS CONCENTRATED IN BJP'S TRADITIONAL BASTIONS; THESE ARE ALSO STATES WHERE RURAL DISTRESS HAS BEEN A KEY ELECTORAL ISSUE

The mystery behind the higher voter turnout

SONAL VARMA & AURODEEP NANDI

Varma is managing director & chief India economist, and Nandi is India economist, Nomura

WITH SIX OF the seven phases of the general elections now complete, we estimate voter turnout in 2019 is likely to average ~67%, on track to break the previous record of 66.4% in the 2014 elections. This translates into ~55-56 million new voters (relative to the 2014 polls) making their way to the ballot box this year.

What explains the increased participation? Are these primarily newly registered voters? Not necessarily. Of the registered voters, only 15 million were found to be in the 18-19 year-old cohort (i.e., newly eligible to vote). Even assuming full electoral participation by this bloc, this leaves ~40-41mn voters, who must therefore be older and are not newly registered, freshly participating in these elections. On the one hand, increased voter turnout may indicate a strong sense of dissatisfaction that has led to voters coalescing to boot out the incumbent, although studies have disputed this causality in previous elections. On the other hand, high voter turnout could reflect active participation at the grass roots level, with the party cadre coaxing citizens to vote. It may also be indicative of more structural, party-agnostic trends, wherein increased social media outreach, general political awareness and ease of voting contribute to participation of previously dormant registered voters.

What does increased voter turnout mean?

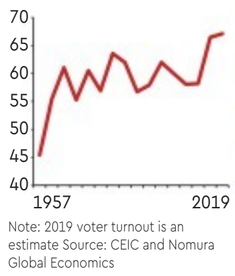
Unfortunately, both theory and empirical analyses fall short of unequivocal conclusions. There are studies that cast statistical doubts on the extent to which increased voter turnout is associated with anti-incumbency. On the flip side, there has been analysis that suggests the BJP may have benefited from lower voter turnout in 1999 and 2004 (when it was an incumbent), but benefited from higher turnout in 2014 (when BJP was the challenger).

Roy and Sopariwala, in their new book, *The Verdict – Decoding India's Elections*, held a different view. They asserted that the BJP and its allies tended to perform better in constituencies with lower voter turnout. We study the link between changes in voter turnout and anti-incumbency at the national level in general elections. It is difficult to extrapolate a trend; governments have changed during both high and low voter turnout election years. Even if we exclude the 1989-1998 period of unstable coalition governments from our sample, recent trends are still hazy. The Indian National Congress (INC)-led coalition, the United Progressive Alliance (UPA), upstaged the BJP-led government in the 2004 elections, despite lower turnout. Also, despite increased turnout in the 2009 elections, the BJP-led coalition, the National Democratic Alliance (NDA), failed to topple the UPA government. However, in the 2014 general elections, the increase in voter turnout was larger than all other elections since 1962 and, contrary to 2004, it corresponded with a landslide victory for the NDA. Based on these trends, it is difficult to be certain whether the ~0.7 percentage point increase in voter turnout this year indicates an anti- or pro-incumbency shift.

Our observations so far for the 2019 elections

We trawled through the constituency-wise voter turnout across states and studied the performance difference versus the 2014 elections in the first four phases, which comprised ~69% of the Lower House seats. The increased turnout is not pan-India. Instead, it is primarily concentrated in the key BJP battlegrounds of Rajasthan, MP, Jharkhand, Chhattisgarh, Assam, Karnataka and Gujarat. The two outliers were Andhra Pradesh and Kerala, where BJP's prospects have traditionally been weak.

Historical voter turnout in general elections



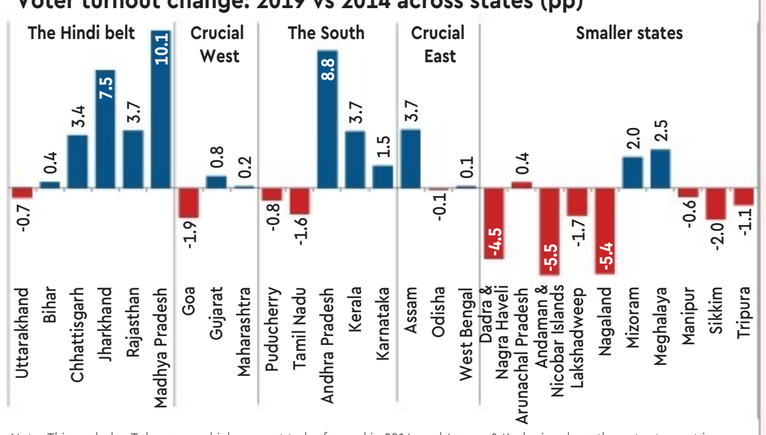
Note: 2019 voter turnout is an estimate Source: CEIC and Nomura Global Economics

Lok Sabha elections–turnout vs anti-incumbency

Lok Sabha election	Chg in voter turnout (pp)	Incumbent	Winner	Anti-incumbency
1962	10.0	INC	INC	x
1967	5.6	INC	INC	x
1971	-5.8	INC	INC	x
1977	5.2	INC	Janata alliance	√
1980	-3.6	Janata alliance	INC	√
1984	6.6	INC	INC	x
1989	-1.6	INC	National Front	√
1991	-5.2	National Front	INC	√
1996	1.2	INC	United Front	√
1998	4.0	United Front	NDA	√
1999	-2.0	NDA	NDA	x
2004	-1.9	NDA	UPA	√
2009	0.1	UPA	UPA	x
2014	8.3	UPA	NDA	√
2019*	0.7	NDA		

Note: INC; Indian National Congress, NDA: National Democratic Alliance, UPA: United Progressive Alliance. 2019 voter turnout is an estimate. Source: CEIC and Nomura Global Economics

Voter turnout change: 2019 vs 2014 across states (pp)



Note: This excludes Telangana, which was yet to be formed in 2014, and Jammu & Kashmir, where the voter turnout is significantly lower. Source: : Election Commission of India and Nomura Global Economics

Bottom-line

The 2019 election is on track to achieve record voter turnout, but both theoretical and empirical studies have struggled to find causality between voter turnout and election outcomes. In past Lok Sabha elections, there have been anti-incumbency outcomes during both high and low turnout elections. But we find it striking that the incremental turnout is turning out to be concentrated in states that form the BJP's 'Hindi heartland' vote bank and remain crucial to its hopes of returning to power. Our base case remains one in which a BJP-led government returns, albeit with a reduced majority.

Edited excerpts from Nomura's Asia Insights report dated May 13

End-to-end encryption isn't fully safe

The WhatsApp hack shows how supposedly secure messaging apps have a basic vulnerability

LEONID BERSHIDSKY

Bloomberg

The discovery that hackers could snoop on WhatsApp should alert users of supposedly secure messaging apps to an uncomfortable truth: "End-to-end encryption" sounds nice — but if anyone can get into your phone's operating system, they will be able to read your messages without having to decrypt them.

According to a report in the Financial Times on Tuesday, the spyware that exploited the vulnerability was Pegasus, made by the Israeli company NSO. The malware could access a phone's camera and microphone, open messages, capture what appears on a user's screen, and log keystrokes — rendering encryption pointless. It works on all operating systems, including Apple's iOS, Google's Android, and Microsoft's rarely used mobile version of Windows.

The cybersecurity community has known about it for years, and activists have been raising hell about its use against dissidents and journalists in dozens of countries — although NSO itself says it doesn't sell Pegasus to unsavory regimes and that it is disabled in the U.S.

It was previously assumed that for Pegasus to work, the intended victim had to click on a phishing link to install the malware. But according to a brief technical description of the hack posted by WhatsApp's owner, Facebook Inc., it now appears hackers can install the malware simply by calling the target.

This isn't the first vulnerability of this kind to be discovered in a supposedly secure messaging app. Last year, Argentinian security researcher Ivan Ariel Barrera Oro wrote about a flaw in Signal, an app favored by Edward Snowden. In that case, a hacker could send a specially crafted internet address in a Signal message and it would download the malware.

It's important to realize, however, that spyware that can install itself without any action on the user's part can arrive through any channel, be it an encrypted messenger, a browser, an email or SMS client with an undiscovered vulnerability allowing such an attack.

These are merely applications running on top of an operating system, and once a piece of malware gets into the latter it can control the device in a multitude of ways. With a keylogger, a hacker can see only one side of a conversation. Add the ability to capture a user's screen, and they can see the full discussion regardless of what security precautions are built into the app you are using.

"End-to-end encryption" is a marketing device used by companies such as Facebook to lull consumers wary about cyber-surveillance into a false sense of security. Encryption is, of course, necessary, but it's not a failsafe way to secure communication.

The tug of war between tech firms touting end-to-end encryption as a way to avoid government snooping and state agencies protesting its use is a smokescreen. Government and private hackers are working feverishly on new methods to deploy malware with operating system-wide privileges. Companies such as NSO are at the forefront of this important work, which can help catch terrorists and prevent attacks — or imprison dissidents and disrupt revolutions against dictatorial regimes.

The WhatsApp episode is likely to increase the backlash against NSO and the export license it has from the Israeli government to sell Pegasus. But if this particular firm stops developing the malware, others will take its place.

The hard truth for activists and journalists in need of secure messaging is that the more tech-savvy they are, the safer they can make their digital communications. One can, for example, encrypt messages on a non-networked device before sending them out through one's phone. But even that wouldn't guarantee complete security since responses could be screen-captured.

Truly secure communication is really only possible in the analog world — and then all the old-school spycraft applies.

This column does not necessarily reflect the opinion of the editorial board or Bloomberg LP and its owners

LETTERS TO THE EDITOR

Destroying Vidyasagar's bust

The political violence that Kolkata witnessed during Amit Shah's roadshow was disturbing, to say the least. This time BJP went out with all guns blazing in West Bengal to win as many seats as possible to at least partly make up for the ineluctable losses in the Hindi heartland. BJP cannot now escape facing an angry backlash from the people of Bengal over the desecration of the bust of the legendary Ishwar Chandra Vidyasagar. It was noticeable that a lot of money was pumped into making Amit Shah's rally a massive show of strength. Ten thousand kilos of marigold showered on the rally route was a clear illustration of the profligate spending. It is an undeniable fact that outsiders were brought in to swell the rally. It is lamentable that BJP chose to destroy the bust of the Bengal's pre-eminent educationist Ishwar Chandra Vidyasagar and wounded the Bengal sentiment deeply in the process. It was a clear case of matching provocation with overreaction. Video footage showed BJP supporters inside the campus breaking everything on which they could lay their hands including the icon's bust and CCTV cameras for the saffron party to shift the blame onto TMC's student wing. Vandalizing and violating a college or damaging property or setting vehicles to fire for that matter comes easily only to 'hired goons'. People are not easily conned into believing the BJP's lies.
— G David Milton, Maruthancode

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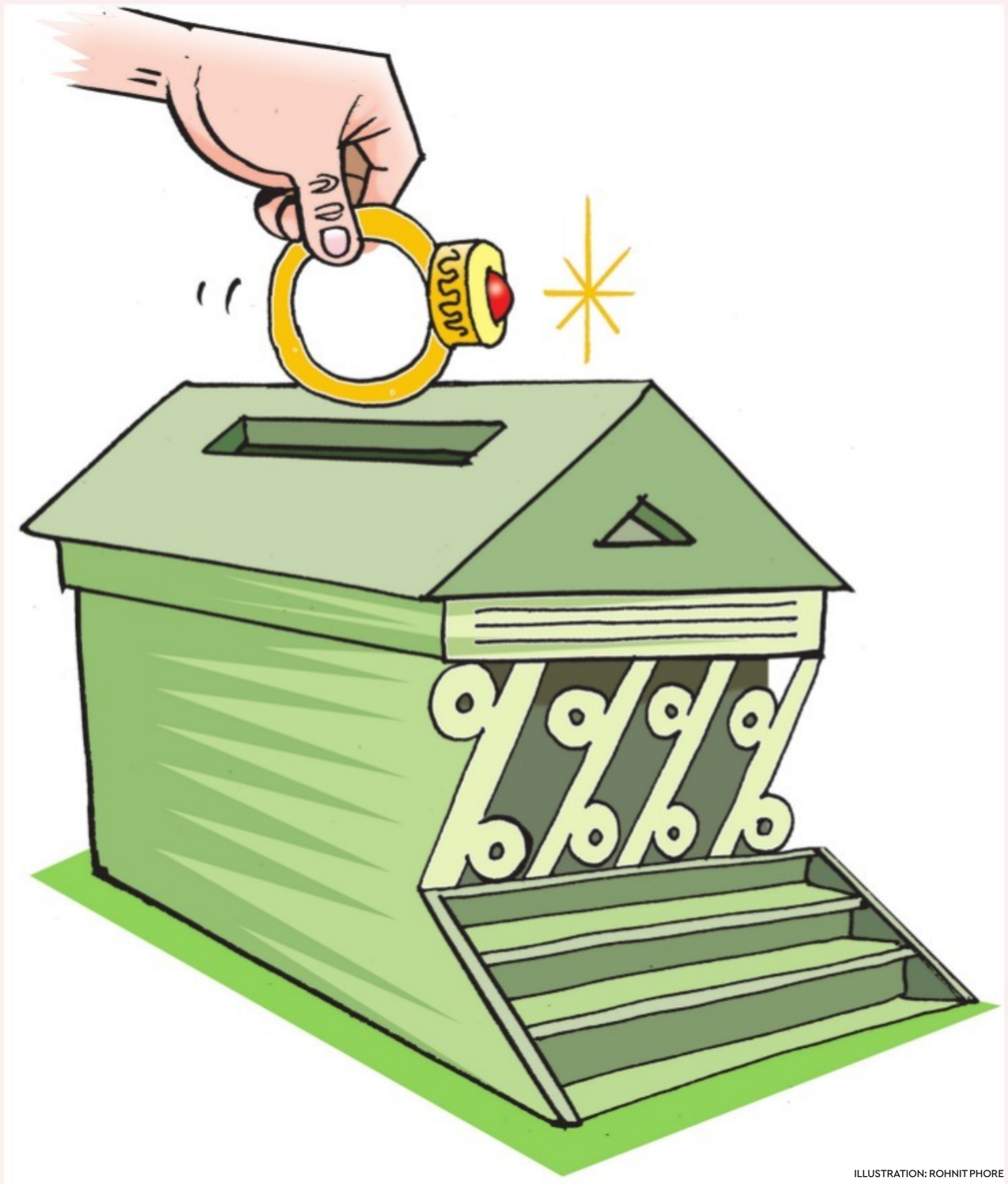

ILLUSTRATION: ROHNIT PHORE

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How to move on gold monetisation

Although banks engage in gold imports, metal loans and selling of gold coins, their clientèle in such businesses are not the target audience for the GMS, i.e. retail jewellery sellers/buyers. Instead, jewellers with their wide presence across the country, better wherewithal in dealing in gold as well as trusted relationship with end-consumers can be cost-effectively roped into the GMS structure

INDIA'S DREAM OF GOLD monetisation appears far-fetched even after three years of its introduction, with a meagre 15 tonnes, a fraction of the 25,000 tonnes of gold estimated to be available with the economic stakeholders of the country. The Gold Monetisation Scheme (GMS), introduced in November 2015 with an aim to mobilise domestic gold stocks, thereby reducing imports and foreign exchange outflows, has remained ineffective, and gold imports have continued to rise at more than 2% on a CAGR basis over the five years ending FY19, and thus continuing to add to the current account deficit.

The efforts of the government to reduce the burden of gold imports and contain foreign currency outflows started as early as in the 1960s, with the implementation of the Gold Control Act, 1962, which led to an era of licensing and import restrictions hindering healthy and transparent development of gold markets in the country; the Act was eventually abolished in June 1990.

Nevertheless, following the liberalisation of the Indian economy in the early 1990s, and subsequent currency pressures, the government introduced the Gold Deposit Scheme (GDS) in 1999. The GDS didn't receive very encouraging response due to inherent problems such as restriction on entry at a minimum deposit of 500 grams, very low interest rates, etc. The lack of infrastructure for recycling and for testing the purity of the gold mobilised through the scheme, apart from the high costs of recycling, also hindered the ability of the scheme to attract more gold. Besides addressing the issue of high gold imports and hence its impact on the current account deficit through the GDS, the turn of the century also warranted the need to monetise gold investment into financial markets, especially given the volatility of foreign fund flows in India. Given this, the revamped GMS was introduced in November 2015, with a minimum deposit of 30 grams, and in short-term (1-3 years), medium-term (5-7 years) and long-term (12-15 years) maturities.

To make the GMS attractive to depositors, the gains from the scheme in terms of interest (2.25-2.5%) as well as capital gains are currently exempted from any tax liabilities. Further, recent regulations facilitated setting up of 49 certified collection and purity testing centres (CPTCs) and 23 refineries licensed by the Bureau of Indian Standards (BIS) as on date—in an effort to overcome the constraints of the GDS (the early avatar of the GMS). However, even these facilitations did not succeed in attracting substantial participation from both the individuals, and religious trusts and endowment boards.

The challenge from an individual investor perspective comes in two ways. One, the preference for having gold in the form of jewellery rather than bars/coins that reduces transparency in repurchases; two, the less attractive returns from gold deposit. The average annual returns during the past three years on gold stood close to 8%, and even after adding 2.25-2.5% interest, the maximum gains stood at 10.5%, against an average of 12% returns from stock markets. On the other hand, monetising temple gold is challenged primarily by religious sentiments and lack of awareness, as only a few temples have participated in the scheme so far. Moreover, awareness of the scheme is still far from the desired levels, and even access to the scheme needs a major push. Only a few banks and those too through limited designated branches are currently offering GMS services. Couple this with just 49 CPTCs across the country, which are certainly not enough, especially for a high-value commodity such as gold, given the huge security risk in transportation. Unless the process of gold collection and deposit is made effortless, there will not be any incentive for customers of the scheme to draw significant inflows.

In this regard, keeping in mind the proposed mandatory hallmarking for sale of jewellery and the associated BIS-licensed jewellers network, banks should be encouraged to join hands with them, laying a transparent and trustworthy process for jewellery collection and deposit, in addition to the collection of the account opening form to complete the necessary KYC process. While this will provide necessary incentives in terms of service fees, it will also encourage jewellers to market this scheme among their large customer base and provide for effective recycling of gold jewellery, if not in the long-term account, then at least in short-term accounts. In addition, it will increase the access of the large network of licensed jewellers to the gold lending and borrowing markets, making good of any anticipated price movements and to maintain healthy business margins.

Banks will have to be provided appropriate incentives to get them to market the scheme to its potential customer base. Interest subvention (given the relatively high cost of gold mobilisation versus metal loan rates) or allowing gold to be part of the CRR (like in the case of Turkey's successful efforts towards gold mobilisation) or even permitting banks to engage third parties such as jewellers in their outreach activities for the GMS need to be implemented to scale up its reach from the current levels. In the current GMS structure, wholehearted participation of commercial banks is critical for the success of the scheme. Moreover, allowing banks to hedge their gold price risk (arising out of short-term gold deposit under the GMS) in domestic exchanges would help them do away with the need for separate forex hedge as well as stay protected against varying premium/discounts of domestic market and any changes in the customs duty structure.

Although banks engage in various gold activities such as gold imports, metal loan, selling of gold coins, etc, their clientèle in such businesses are not the target audience for the GMS, i.e. retail jewellery sellers/buyers. Instead, jewellers with their far and wide presence across the country, better wherewithal in dealing in gold as well as trusted relationship with end-consumers can be cost-effectively roped into the GMS structure. At the same time, the physical movement of gold in the hands of the consumer in the current manner in which the GMS operates can be minimised and leveraged upon through forging of an effective commercial network between jewellers and other infrastructure providers. Finally, involvement of jewellers in the scheme will help in eliminating the negative vibes around the GMS, as they start marketing it.

Another challenge to the growth of the GMS on the retail side will arise from the fact that a large part of investments in gold happen through informal markets in an unaccounted manner. Given that the nation is interested in bringing to formal books the informal investments made in gold, the GMS with appropriate tax incentives will prove to be a great way for the unaccounted money invested in gold to be formalised. The success of gold monetisation in India, therefore, largely depends on effectively addressing such challenges with suitable policy and fiscal measures. Last but not the least, it's important to build adequate world-class infrastructure facilities for assaying, testing and refining the monetised gold, assuring a given quality standard and thereby bringing trust and transparency amongst all the value chain stakeholders. This will put India's gold monetisation aspirations onto the desired path.

Getting ready for e-commerce 2.0

RT WASAN

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We're seeing a change in the type of commercial vehicles purchased to cater to the growing e-commerce sector

THE ONLINE RETAIL market in India has grown by leaps and bounds from a nascent state in the mid-2000s, to its current size of $19.5 billion worth of transactions at a gross level. Along with it, consumer behaviour has also evolved, wherein e-commerce initially was more of a heavily discounted marketplace, to today where many users are seeking convenience of ordering products from the comfort of their homes, rather than visit physical stores.

With this growth trajectory of the e-commerce retail industry, the logistics sector has witnessed an upward trend. The e-commerce retail logistics market, valued at $1.35 billion in 2018, is projected to witness a growth of about 36% in the coming five years.

As the demand is consistently increasing, the delivery points are also on a rise, and so are time-bound deliveries. The number of intraregional and last-mile truck trips has increased, while the average length of haul has declined. Motor carriers must operate with faster turnaround times, and contend with external factors such as weather, traffic congestion and warehouse delays.

As the trucking industry evolves to accommodate omni-channel retailing, both in terms of shorter trip lengths and the types of products being shipped, we're also seeing a change in the type of trucks purchased to cater to the growing e-commerce sector.

Trucks manufactured for the e-commerce sector must now accommodate each shipment's weight, dimensions, distance to destination, delivery requirements, special handling needs, and other direct-to-customer variables. This is besides the driver comfort and safety, which also plays an integral part in customising vehicle design. Both motor carriers and equipment manufacturers are experimenting with a variety of new technologies to address the challenges created by urban package deliveries, including drones, delivery robots, smart cargo compartments and even autonomous delivery vans.

The number of intraregional and last-mile truck trips has increased, while the average length of haul has declined. Motor carriers must operate with faster turnaround times

In the Indian scenario, here's what could make us future-ready:

- Trucks are running at high speeds, carrying high loads. Warehouses are going out of the city and the wait time is increasing. Hence, trucks needs to be more powerful and need to be re-engineered to increase fuel efficiency.
- Goods worth lakhs are carried every day. For increased visibility and security, cargo bodies need to be built with cameras, OTP lock, CCTV in the cabin and anti-theft sensors.
- Driver availability is a huge concern today and, therefore, there needs to be higher stress on reducing driver fatigue through AMT technology, power steering, AC cabins and comfortable seats.
- Small commercial vehicles need to be built shorter in size with moveable multiple partitions inside the container and with higher payload for convenient door-to-door deliveries.
- Intermediate and light commercial vehicles (ILCV) and medium and heavy commercial vehicles (MHCV) need sleeper cabins for non-stop running in long hauls.
- The demand of electric/hybrid vehicles may come up in the near future.

Going forward, the growth of this sector will also depend on the growth of other sectors, including steel, cement, agricultural products and petroleum. Improved road connectivity to villages and better road conditions will help the e-commerce industry to penetrate the deep ends of the country very soon. With the introduction of GST, e-commerce players have better governance with the government creating a level-playing field for the industry, giving a fair chance to all the retailers and also upholding business growth. In the near term, expanded use of electric vehicles seems to be a natural extension of alternative energy-based e-commerce deliveries as part of efforts to address issues such as air quality and noise pollution.

For commercial vehicle players, the credit lies in offering sophisticated solutions to simplify customer requirements while also valuing driver comfort and well-being. India's logistics market is different and hence the need is different. We need to think out of the box to resolve the pain points of logistics and its traditional ways. It's entirely possible to outcompete the market as the industry is yet quite untouched.

Changing water data game to real time

Improving river water quality has been a political priority over the years. But what cannot be adequately measured, cannot be improved

PRIYANK HIRANI & VIKAS DIMBLE

Hirani is team lead & program manager, Water-to-Cloud, UChicago; Dimble is assistant director, Research & Strategy, Tata Centre for Development at UChicago

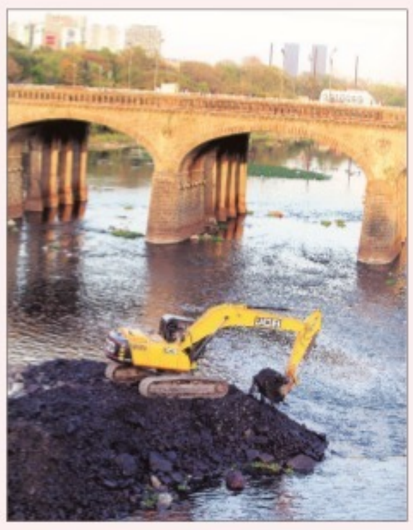
IT'S NOT JUST INDIA'S air that's choking; the water is getting toxic as well. It is estimated that about 70% of surface water is unfit for consumption. The most marginalised drink and use this water for their daily needs. In fact, every day, almost 40 billion litres of wastewater enters rivers and other water bodies, with only a tiny fraction being adequately treated.

A recent World Bank report estimates annual costs associated with water pollution, sanitation and hygiene at about ₹470-610 billion per year—most of which comes from the cost of diarrhoeal mortality and morbidity of children under five, and other population morbidity. In terms of ecological impact, India's national aquatic animal, the Ganges River Dolphin, has become an endangered species due to pollution. Despite its severe implications, there is no comprehensive programme for monitoring river water quality in real time.

Changing the game

Conventionally, water quality is measured by collecting grab samples and testing them in laboratories. Even though this may be a robust method, it has limitations: obtaining results takes time, it is expensive on a per sample basis, and also prone to human errors at various stages. On the other hand, sensors that can monitor water pollution in real time can furnish quick and reliable data for policymakers to act upon. Such sensors, when taken around on boats instead of fixing them to specific locations, can provide a comprehensive picture of the health of a river by gathering multiple data points in a given area rather than relying on a single-point measurement.

Rivers are dynamic ecosystems. They require continuous monitoring and near real-time data availability to ensure effective and holistic decision-making. But that's not necessarily the common practice in India. For instance, the distance between two consecutive stations—one near Raebareli and the other near Allahabad—being currently monitored on River Ganga by government agencies on a monthly basis, is about 80 km. Owing to lack of data in this 80-km stretch between the two stations, one may lose out on information about any contaminants entering the river through industrial waste, municipal sewerage or agricultural field discharges in between these two stations. They add to the total pollution load in the river, but can go unnoticed since their effects could die down by the time the river reaches Allahabad.



Today, there are initiatives that use sensor technology to map river pollution hotspots in similar stretches in India to present policymakers with evidence to design interventions. To gather data, boats, with automated sensors attached to them, are taken around sites of interest on a regular basis. By pinpointing sources of pollution, identifying safe bathing *ghats* and quantifying pollution load entering the river, this approach can help regulatory bodies and other stakeholders.

Disseminating data

While collecting reliable and accurate data is essential, disclosing data to public in easy-to-understand formats is necessary to enable end-users to act upon it. Geotagging all data points helps in superimposing data on technical water parameters data on, say, Google Maps. Further, colour coding the scale for these data points helps create heat maps that can pinpoint any pollution sources entering the river. Such visualisations can equip citizens with information to influence policymakers and play a crucial role in monitoring their local environment through community-led initiatives.

Helping public policy

Lack of high-quality data has been an obstacle for effective regulation of water pollution in India. Due to staffing constraints, manual inspections, which can often be manipulated, are carried out only a few times a year and that too only in a few places. Real-time monitoring of long stretches of water bodies can make reliable and accurate data available to regulators, and disclosing the data to public in real time have the potential to vastly improve regulation and enforcement. Existing research shows that disclosing data to public has many additional advantages. Such disclosures create competition among industries on environmental performance. In fact, civil society groups, common people and investors nudge polluters towards acting responsibly.

Cleaning India's rivers has been a political promise for long. To make it a reality, it's time to raise the game with better water quality data and transparency measures.