Opinion

FRIDAY, JULY 7, 2017

NOBODY KNOWS FOR SURE

US president Donald Trump

"Well, I think it was Russia and I think it was other people in other countries who also interfere. ... A lot of people interfere. It's been happening for a long time. Nobody really knows for sure"

Regaining DigitalPay momemtum critical

In the case of products like BHIM, the number of downloads are down, way behind FY18 targets

WITH CASH FLOWING back into the system over the last few months, the average number of digital transactions per day has slipped from 44 million in March 2017 to 37 million in June, according to a recent presentation made by NPCI chief AP Hota. This does not mean that digital payments are back to their pre-demonetisation levels, indeed there was a big momentum in digital payments even before demonetisation. At ₹75,100 crore (extrapolated over April, based on RBI's representational data), usage of debit/credit cards at retail outlets in May 2017 was below the December 2016 peak of ₹89,200 crore, but way higher than ₹40,500 crore in May 2016. The use of PPIs doubled in December and, to that extent, May 2017's ₹11,500 crore looks sluggish—but it is dramatically higher than May 2016's ₹5,000 crore. IMPS transactions have slowed in the past few months but, at ₹58,600 crore in May 2017, they are 2.7 times more than the ₹21,600 crore in May 2016. The question, in this context, is what does the government need to do to achieve its digital payments targets?

Particularly worrying, in this context, is Hota's data that shows the number of BHIM downloads is down from 6.8 million in January 2017 to a mere 0.6 million in June. As a result, while the target for UPI+BHIM is 40 crore transactions in FY18, the actual achievement in Q1 was a mere 2.5 crore, or a little over 6%. For all digital transactions, against the target of 2,500 crore for FY18, the achievement for Q1 was a mere 230 crore. Given households, small traders and small businessmen are all more comfortable with cash payments, the fact is the government hasn't spent enough time and resources in effectively promoting the use of digital channels. Since banks have always been reluctant to promote the UPI channel for fear of losing customers—the channel can be accessed across apps—and will remain reluctant, it is up to the government to up the ante. The Digidhan Mela initiative might boast of 27 lakh merchants coming on board and more than 20 million individuals registering, but this is not reflecting in the number of transactions. What's called for is a far bigger initiative.

The government needs to create a separate organisation and give it a large enough budget so that it can make the channels user-friendly, much like Paytm has done—promoting digitisation requires a more focused approach, with professionals doing the job rather than bureaucrats. The BHIM app, for instance, is a simple enough product but far less popular than a Paytm because it hasn't been promoted enough. The product needs to be pulled rather than pushed, but for that to happen customers, must be convinced of its benefits. Since, for instance, some of Paytm's attractions lie in the tie-ups with cab aggregators and the cash back offers, a BHIM too needs to be made more attractive with such deals and more. Some part of the problem, of course, is linked to the desire to avoid tax payments, but once GST stabilises, this should be less of a problem. The government, meanwhile, has to continue to push digital payments, and that means both addressing pain points for users and, like Paytm, finding new ways to lure them.

Small savings, big issues

Limited cut in rates limits banks' ability to cut rates

WHEN THE GOVERNMENT, in March last year, announced the plan to reset interest rates on small savings every quarter, most thought it would usher in an era of low interest rates, in keeping with the falling rates on government securities (G-Secs). As the government press release put it, the move "is expected to help the economy move to a lower overall interest rate regime eventually and thereby help all, particularly low-income and salaried classes". If rates on small savings were to come down—the tax breaks on many make them even more attractive—banks would be in a position to lower deposit rates and, therefore, lending rates. The problem, however, is that despite the announcement—even spreads over G-Secs were announced like, for instance, 75 bps for the Sukanya Samriddhi Yojana and 100 bps for Senior Citizen Savings Scheme—rates have not come down commensurately. Which is why, in February, RBI said interest rates would come down faster if rates on small savings came down—these rates, the central bank said, "are about 65-100 basis points higher... compared to what they should be if the formula is followed".

So while the government has cut rates on small savings by 10 bps for the second successive quarter, the interest rate on the tax-free Public Provident Fund (PPF) has been set at 7.8% for July-September—after factoring in the 25 bps spread that was announced for this product, the rate should have been around 7%; an 85 bps extra return, apart from generous tax incentives makes the PPF far superior to anything a bank can offer. While SBI offers 6.25% on a five-year deposit, the same scheme in a post office fetches 7.6%, a full 55 bps higher than it should be based on the formula announced by the government—a five-year NSC offers an even higher 7.8% interest rate which is 75 bps more than what the formula warranted.

At a time when inflation was high, the government wanting to protect those investing in small savings rates still made sense. Today, however, inflation levels are at almost historical lows, making the real return much higher than in the past. With CPI at 2.18% right now, the five-year NSC has a real return of 5.6% and the Sukanya Samriddhi Yojana offers 6.1%. Apart from the fact that not cutting rates enough is hindering monetary transmission, from the point of efficiency, the government must adhere to its own set rules and bring in parity in returns of all financial products of similar risks.

SubsidyTRACK

Concentration of Railways' passenger service losses in the *janta* classes may derail subsidy surrender plan

The government might be looking to replicate the success of its #GiveItUp campaign for LPG subsidy for Railways fare subsidies, but that may prove to be a different ball game altogether. Under-recoveries across classes in both non-suburban and sub-urban rail services, the concessions given to specific groups (non-suburban) and resulted in a loss of a little over ₹33,000 crore in FY15. Thus, the government planning a campaign to get passengers to renounce subsidies should seem to be a good idea. As per *The Times of India*, "giving up" will be offered in two slabs—50% and 100% of the subsidy amounts.

The bulk of the operating losses to the passenger business of the Railways comes from under-recovery across classes in non-suburban and suburban services. It is likely that first and second AC passengers—first AC fares are comparable with flight fares—will be able to afford a full charge, or an increased charge if they opt for the 50% subsidy surrender. But, while it is true that the Railways incurs a loss in the first and second AC segments, and makes a profit in third AC, it is the sleeper and the second class (largely unreserved) passenger segments where under-recovery hits it the hardest—a study on Railways' cost of fulfilling "social service" obligations by NITI Aayog's Bibek Debroy and Kishore A Desai shows these segments in mail/express and ordinary trains accounted for ₹27,776 crore of the total ₹27,779 crore operating losses the non-suburban service incurred in FY15. In fact, Debroy-Desai point out that for the Delhi-Lucknow route, fares in sleeper and second class work out to less than half of what bus services offering comparable standards of travel charge. The suburban and Kolkata Metro service, for their part, accounted for a loss of ₹4,679 crore. Given the likely income bracket of the passengers in these classes, it seems doubtful that the government will be able to get passengers to give up the subsidy where it matters the most; perhaps, homeopathic fare increases could work better. That said, the Railways could cut losses if it were to shed a bulk of its first and second AC segments and offer more third AC coaches, since that is where the profits are.

GST'S ROAD AHEAD

ACROSS GOODS AND SERVICES, THERE SHOULD BE A SINGLE RATE FOR EVERYTHING AND NO ITEMS SHOULD BE OUTSIDE THE TAX NET

The importance of being simple

BIBEK DEBROY
Member, NITI Aayog
Views are personal

WHAT IS A good and simple tax and why is the present indirect tax structure bad and complicated? There are several reasons behind the bad, ugly and complicated visage—the constitutional structure, history and legacy, differential treatment of goods vis-à-vis services, multiple rates and exemptions. Exemptions mean loss in revenue. In FY16, such concessions/incentives on excise duty had a revenue impact of ₹2,24,940 crore. Stated more directly, had those concessions/ incentives not been there, revenue would have been that much more. In February 2016, there was a Parliamentary question and, in response, the government gave figures for September 2015—1,36,365 indirect tax cases were pending, 40,967 before Supreme Court. The total sum involved was ₹2,11,881 crore. Differences in rates, across items, are a primary reason behind tax disputes.

Ponder the following weighty matters. Is green coconut a fruit or a vegetable? Is Parachute oil, occasionally used for hair too, "coconut oil" or "hair oil"? Is Dant Manjan Lal toothpowder or a medicinal product? Is McDonald's McSwirl ice-cream or a dairy product? Is Scrabble a game or a puzzle? These, and there are several more examples, are matters on which courts have had to adjudicate, because of differences in rates. Other than prohibition, differences in rates are the reason behind liquor being smuggled across borders and cars being bought and registered in a state other than the state of residence.

"Simple" is a simple and objectively determined adjective. Across goods and services, there should be a single rate for everything and no items should be outside the tax net. You do not leave out liquor, petroleum products, electricity or legal services. There is also a trade-off between "simple" and "good", "good" being a term that is inherently subjective. Specifically, should indirect tax policy be used to address distributional concerns? Distributional concerns are indeed important. However, some issues of equity are beyond the purview of tax policy.

To the extent they are in the domain of tax policy, they pertain to direct taxes, where progressivity can be built in. But in many developing countries, India included, there is a perception that indirect taxes must reflect concerns of the poor and deflect items consumed by relatively rich. As soon as this thin end of the wedge is in, one is asking for trouble. Mass consumption and elitist consumption involve subjective identification, based on static and arbitrary considerations. It also allows the insidious creeping in of lobbying for exemptions. Why did the excise exemptions mentioned earlier exist? Probably because someone lobbied for them. The exemption argument is simple. "Remove exemptions for others, but retain them for me."

Think of the following items and ask whether they deserve a GST rate of 0%, even with that pro-poor lens—meat, fish, newspapers, printed books. Everyone wants a lower tax rate, more on that later. But should the items mentioned, and there are more like that, be given a 0% rate because they are essential goods and services? Roughly, 300 items in the Centre's list and 80 items in the state list have such 0% rates. Why create an artificial threshold of ₹1,000 between hotels that have higher room tariffs and lower? (There is another threshold at ₹7,500). For garments, there is a threshold of ₹1,000 and for footwear, one of ₹500. Is shampoo a demerit good to be taxed at 28%? A revenue neutral rate is a rate that yields the same revenue before and after the change. Computing a revenue neutral rate isn't easy, because it's hard to estimate volume growth and a broadening of the tax base. In all probability, with all items under GST, a revenue neutral rate would have been around 17%, perhaps even 18%. With several items at 0%, 3%, 5% and 12%, the weighted average rate of items included is probably below 18%.

Make no mistake. Introducing the GST in a country like India is no mean achievement. Few countries (around seven) have the GST, though several have VAT. Of the ones that have the GST, Canada and India are probably the only ones that have some kind of federal structure. Of course, many Union and state taxes (central excise, service tax, VAT, entertainment tax, Octroi/entry tax, purchase tax, luxury tax, taxes on lottery) have been unified and inter-state check-posts are vanishing. The GST brings gains—efficiency (and thereby growth), lower compliance costs , lower collection costs and greater tax revenue. But empirical evidence (on VAT) indicates such gains happen when all items are included and there are no more than 2-3 rates. In working out the compromise, GST Council has deviated quite a bit from that goal.

Concerns about rules (e-way bills, registrations, forms) are not that serious. They will sort themselves out, with tweaking here and there. Concern about the basic structure is more serious. Sure, there is hope that in the long run, there will be no more than two or three rates — a standard one, a merit (lower) and a demerit one (higher). There is the Keynes quote and let me give you all of it, not just the bit that is usually quoted. "The long run is a misleading guide to current affairs. In the long run, we are all dead." What are those three rates likely to be? Probably something like 12%, 18% and 24%. Everyone will happily accept reduction from 28% to 24%. No one will happily accept increase from 0%, 3% and 5% to 12%. Had it been that easy, the GST Council would have introduced it now. Once in place, a basic structure is not that easy to change, nor its consequences. Many old English houses continue to be dark because glass was heavily taxed, discouraging use of windows. Old houses in Amsterdam are narrow because taxes on houses were correlated with width of the façade. Similarly, on the basis of present rates, enterprises will take decisions and argue against change, even though promissory estoppel doesn't apply to taxation.

In praise of scientific theory

You think climate science is just a hunch? Hardly. Think germ theory, atomic theory and the theory of evolution

FAYE FLAM
Bloomberg

Science can make life difficult for manipulators and demagogues. Without science, it would be much easier to convince the public that an intelligent designer created the world, or that greenhouse gas warming and lead contamination are just the fantasies of "alarmists." To physicist and historian Gerald Holton, attacks on science tend to go along with moves toward authoritarian rule. "History has shown repeatedly that a disaffection with science and its view of the world can turn into a rage that links up with far more sinister movements," he wrote in his 1993 book *Science and Anti-Science*.

Those who want to fight the conclusions of scientific research often strike at its points of vulnerability—like scientists' insistence on using the word "theory" to describe even well-established ideas. In popular language, a "theory" implies a hunch or guess—something less than a fact. That wrongly suggests weakness. "The theory of global warming is just that: a theory," then-congressman and climate sceptic Mike Pence told an Indiana newspaper in 2003. He probably couldn't get away with a similar dismissal of germ theory, atomic theory or Einstein's theory of relativity. "It's unfortunate the way the word 'theory' is used," said philosopher of science Peter Godfrey-Smith. "To say something is a theory is to say it's been expressed as an idea. It's not to say anything about whether the claim is justified or not justified—true or false."

The 19th-century philosopher William Whewell was one of the first people to put forward a definition of scientific theory as a product of observation and reasoning. And he had in mind a particular form of reasoning—inductive reasoning, by which people draw broad conclusions from individual examples. That lines up with Darwin's theory of evolution, which is backed by the fossil record, DNA evidence and even changes in animal anatomy. For a theory to be scientific, the philosopher Karl Popper asserted, it must be testable in such a way that it could be proven false. "Creation science" and other ideas involving supernatural entities can't be falsified by test, and therefore aren't scientific. Popper also argued that proper experiments can only be set up to falsify theories, not to confirm them. (Philosophers of science are still debating the merits and flaws of Popper's ideas.) Different fields have developed different standards for describing as-yet-untested ideas. The late physicist Richard Feynman called them "guesses". In one of his famous lectures at Cornell University, he echoed Popper in declaring that guesses are legitimate parts of science if they're falsifiable: "It doesn't make any difference how beautiful your guess is; it doesn't make any difference how smart you are," he said. "If it disagrees with experiment, it's wrong." This is true—assuming the experimenters didn't make a mistake, as sometimes happens. For example, a few years ago, a group of physicists found something that seemed to directly contradict Einstein's theory of relativity, which predicts that nothing can move faster than the speed of light. In an experiment, it appeared that neutrinos travelled faster. Other physicists were rightly reluctant to believe these particles were violating this universal speed limit—not because Einstein was so smart or because the theory was beautiful, but because the theory itself is backed by dozens of experiments. They weren't really weighing an observation against a theory; they were weighing a single, new observation against dozens of well-established observations. (And, in fact, the experiment turned out to be in error due to a faulty cable.)

The theory behind climate change is also grounded in observation and reason. It all started with a puzzle: By the early 1800s, physicists realised that an earth-sized rock orbiting the sun at a distance of 93 million miles should be frozen according to the known laws of physics. French physicist Joseph Fourier proposed that the atmosphere keeps the planet warm. Others tested this theory in laboratory experiments, sending a simulated version of sunlight through various gases. They found that oxygen and nitrogen had no effect on the light, but carbon dioxide (CO_2) did. In repeated experiments, CO_2 absorbed and re-radiated infrared waves, which on a planetary scale would prevent some of the sun's energy from escaping to space.

But now climate science has something even stronger on its side, said atmospheric physicist Lee Harrison of the State University of New York, Albany. The premise is all predicted by a powerful theory in physics known as quantum mechanics, which describes in detail the behaviour of light and matter on the scale of molecules, atoms and subatomic particles. Like Einstein's theory, quantum mechanics is bolstered by hundreds of experiments. Quantum mechanics predicts how infrared radiation coming up from the earth will be affected by CO_2 and other gases. "What the public doesn't understand is the extreme interconnectedness of physical reality," Harrison said. "If someone proposes that CO_2 is not a greenhouse gas, this requires ripping up essentially all of modern physics ... Now you aren't just arguing with those measurements of CO_2; you are arguing with the whole body of molecular quantum mechanics and all confirming measurements." The most insidious misperception skewing debate over climate change is confusion between uncertainty about the predictions of a theory and uncertainty about the theory itself. To illustrate, Harvard University philosopher Peter Galison brings up evolution by natural selection: The theory is on solid ground, but that doesn't mean it can predict exactly what foxes will look like 800,000 years in the future. *NYT* columnist Bret Stephens conflated these kinds of uncertainty in his high-profile debut column last April: "We live in a world in which data convey authority. But authority has a way of descending to certitude, and certitude begets hubris," he wrote. But science isn't just data-collecting, which is why scientists can be close to certain of the merits of germ theory, relativity, quantum mechanics and evolution. Scientists are the ones avoiding hubris by calling their best ideas theories.

In his column, Stephens wrote that "[ordinary citizens] know—as all environmentalists should—that history is littered with the human wreckage of scientific errors married to political power." Holton's *Science and Anti-Science* is full of examples of this—from the Soviet anti-scientific biological theory known as Lysenkoism to the Nazis' replacement of powerful 20th-century physics with ad-hoc cosmology. But there's a big difference between these made-up theories and the experimentally backed theory of greenhouse gas warming. I'll leave the last word to Holton: "History has shown again and again that authority which refuses belief in sound science and substitutes for it non-science in its programs can have vast costs in lives and treasures; think of the mass starvation when the Soviet party adopted Lysenko's ideas for harvests ... or what might be coming now for the lives of coastal peoples if no action is taken in accord with sound climate science.

LETTERS TO THE EDITOR

Towards banking consolidation

Apropos of SBI chairman Arundhati Roy's statement that strong banks should be merged with strong banks only, following the merger of its five associates with the State Bank of India, consolidation in the Indian public sector banking space gained momentum. Cross-merger among the PSBs, however, is not an easy proposition as even the smallest PSB now has a total business of around ₹2 lakh crore, with a fairly large network requiring many administrative and technical issues to be sorted out. But for a sound, strong and vibrant banking system, the country certainly needs to look at overhauling the present set-up in terms of having a small number of big banks instead of large number of small banks. A North-based bank forming an alliance with a South- or East-based one will be meaningful not warranting much rationalisation of branch network thereby also minimising the complexities associated with, to that extent. Based on the experience gained, the mid-sized banks can accordingly be taken up for mergers with other big banks. To get an idea of the scale difference, post-merger SBI is still considered to be only a fifth of the largest bank in China (Industrial and Commercial Bank of China) in terms of market size. Smaller banks have limited resources and a low risk-bearing appetite and hence have now very limited ability to confront the emerging challenges. What we need today is about 5-6 big and strong banks of the size of SBI or even bigger, to be able to take on the future challenges, including funding the cross-border acquisitions. The consolidation process should be expedited in the larger interest of the country for a renewed stability of financial system.

— Umashankar Srinivasan, Nagpur

The Kashmir problem

Enough is enough. Whatever may be the cause of Kashmir problem—whether it is Pakistan-funded terror or local dissaffection—the government cannot disown its responsibility towards peace in the state. If need be, the toughest measures should be adopted. It is a fact that the violence in the Valley has been going on for a long time and the government has no grip on it. Efforts should be made to develop the region.

— M Kumar, Delhi

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CREATION STORIES

Fake news: you ain't seen nothing yet

Generating convincing audio and video of fake events

EARLIER THIS YEAR Françoise Hardy, a French musician, appeared in a YouTube video (*https://www.youtube.com/watch?v=af_9LXhcebY*). She is asked, by a presenter off-screen, why President Donald Trump sent his press secretary, Sean Spicer, to lie about the size of the inauguration crowd. First, Ms Hardy argues. Then she says Spicer "gave alternative facts to that". It's all a little odd, not least because Françoise Hardy, who is now 73, looks only 20, and the voice coming out of her mouth belongs to Kellyanne Conway, an adviser to Trump.

The video, called "Alternative Face v1.1", is the work of Mario Klingemann, a German artist. It plays audio from an NBC interview with Conway through the mouth of Hardy's digital ghost. The video is wobbly and pixelated; a competent visual-effects shop could do much better. But Klingemann did not fiddle with editing software to make it. Instead, he took only a few days to create the clip on a desktop computer using a generative adversarial network (GAN), a type of machine-learning algorithm. His computer spat it out automatically after being force fed old music videos of Hardy. It is a recording of something that never happened.

Klingemann's experiment foreshadows a new battlefield between falsehood and veracity. Faith in written information is under attack in some quarters by the spread of what is loosely known as "fake news". But images and sound recordings retain for many an inherent trustworthiness. GANs are part of a technological wave that threatens this credibility.

Audio is easier to fake. Normally, computers generate speech by linking lots of short recorded speech fragments to create a sentence. That is how the voice of Siri, Apple's digital assistant, is generated. But digital voices like this are limited by the range of fragments they have memorised. They only sound truly realistic when speaking a specific batch of phrases.

Generative audio works differently, using neural networks to learn the statistical properties of the audio source in question, then reproducing those properties directly in any context, modelling how speech changes not just second-by-second, but millisecond-by-millisecond. Putting words into the mouth of Trump, say, or of any other public figure, is a matter of feeding recordings of his speeches into the algorithmic hopper and then telling the trained software what you want that person to say. Alphabet's DeepMind in Britain, Baidu's Institute of Deep Learning in Silicon Valley and the Montreal Institute for Learning Algorithms (MILA) have all published highly realistic text-to-speech algorithms along these lines in the past year. Currently, these algorithms require levels of computing power only available to large technology companies, but that will change.

Generating images is harder. GANs were introduced in 2014 by Ian Goodfellow, then a student at MILA under Yoshua Bengio, one of the founding fathers of the machine-learning technique known as deep learning. Goodfellow observed that, although deep learning allowed machines to discriminate marvellously well between different sorts of data (a picture of a cat v one of a dog, say), software that tried to generate pictures of dogs or cats was nothing like as good. It was hard for a computer to work through a large number of training images in a database and then create a meaningful picture from them.

Goodfellow turned to a familiar concept: competition. Instead of asking the software to generate something useful in a vacuum, he gave it another piece of software—an adversary—to push against. The adversary would look at the generated images and judge whether they were "real", meaning similar to those that already existed in the generative software's training database. By trying to fool the adversary, the generative software would learn to create images that look real, but are not. The adversarial software, knowing what the real world looked like, provides meaning and boundaries for its generative kin.

Today, GANs can produce small, postage-stamp-sized images of birds from a sentence of instruction. Tell the GAN that "this bird is white with some black on its head and wings, and has a long orange beak", and it will draw that for you. It is not perfect, but at a glance the machine's imaginings pass as real.

Although images of birds the size of postage stamps are not going to rattle society, things are moving fast. In the past five years, software powered by similar algorithms has reduced error rates in classifying photos from 25% to just a few percent. Image generation is expected to make similar progress. Mike Tyka, a machine-learning artist at Google, has already generated images of imagined faces with a resolution of 768 pixels a side, more than twice as big as anything previously achieved.

Goodfellow now works for Google Brain, the search giant's in-house AI research division (he spoke to *The Economist* while at OpenAI, a non-profit research organisation). When pressed for an estimate, he suggests that the generation of YouTube fakes that are very plausible may be possible within three years. Others think it might take longer. But all agree that it is a question of when, not if. "We think that AI is going to change the kinds of evidence that we can trust," says Goodfellow.

Yet even as technology drives new forms of artifice, it also offers new ways to combat it. One form of verification is to demand that recordings come with their metadata, which show when, where and how they were captured. Knowing such things makes it possible to eliminate a photograph as a fake on the basis, for example, of a mismatch with known local conditions at the time. A rather recherché example comes from work done in 2014 by NVIDIA, a chip-making company whose devices power a lot of AI. It used its chips to analyse photos from the Apollo 11 Moon landing. By simulating the way light rays bounce around, NVIDIA showed that the odd-looking lighting of Buzz Aldrin's space suit—taken by some nitwits as evidence of fakery—really is reflected lunar sunlight and not the lights of a Hollywood film rig.

Amnesty International is already grappling with some of these issues. Its Citizen Evidence Lab verifies videos and images of alleged human-rights abuses. It uses Google Earth to examine background landscapes and to test whether a video or image was captured when and where it claims. It uses Wolfram Alpha, a search engine, to cross-reference historical weather conditions against those claimed in the video. Amnesty's work mostly catches old videos that are being labelled as a new atrocity, but it will have to watch out for generated video, too. Cryptography could also help to verify that content has come from a trusted organisation. Media could be signed with a unique key that only the signing organisation—or the originating device—possesses.

Some have always understood the fragility of recorded media as evidence. "Despite the presumption of veracity that gives all photographs authority, interest, seductiveness, the work that photographers do is no generic exception to the usually shady commerce between art and truth," Susan Sontag wrote in "On Photography". Generated media go much further, however. They bypass the tedious business of pointing cameras and microphones at the real world altogether.

THE ECONOMIST

TRANSPORT INFRA ASSETS

Unlocking new opportunities

NEETU VASANTA & SURESH SUBUDHI

Vasanta is principal, The Boston Consulting Group, while Subudhi is partner & leads the infrastructure practice BCG (India)

Govt needs to utilise core assets to build value for customers and businesses

TRADITIONAL REVENUE POOLS of transportation assets are drying up due to increased competition within and across modes, deteriorating overall macro-economic environment, and negative public response to rising charges. Asset owners world-wide, are augmenting core revenue sources such as ticketing and passenger chargers with ancillary streams for enhanced monetisation of their existing assets. Additionally, many asset owners are forging innovative partnerships across modes to extract higher returns.

In the wake of traditional revenue pools drying up here are a few key opportunities.

Boosting revenues through changing value proposition: Airports have boosted their value proposition with around 40% of overall revenue credited to non-aviation sources. While aviation charges are still an important revenue source, they are no longer the nucleus. Non-aviation activity has left airport operators with more creativity to generate additional revenue. Singapore's Changi Airport is considered a world leader. In 2016, it earned $1.5 billion from sales at airport shops. It also offers theme gardens, jacuzzis, movie theaters, etc, providing travellers a five-star experience. Ratings agency ICRA has forecasted that non-aviation revenues at Indian airports will grow by 16.6% to reach ₹16,150 crore by 2025.

According to a World Economic Forum and BCG report, transport asset owners could generate as much as 10-30% of overall revenue from ancillary sources.

Innovate across customer journey to augment offering: Globally, leading asset owners are extracting additional revenue from core assets by tailoring their offerings to unmet customer needs. For example, Japanese railways company JR-East generates over 30% revenues via offerings ranging from retail to office buildings. Digital advancements have also enabled provision of targeted offerings for various modes of transport. Seoul Metro, for example, has boosted retail revenues for subways in South Korea through "virtual" Tesco outlets with digital product display and home deliveries. The innovation encourages people to shop while they wait for trains. Some leading ports are also exploring digital avenues for revenue enhancement at terminals. Singapore port, for instance, has introduced a booking and subscription fee associated with electronic fleet management of cargo trucks. Some recently modernised leading airports like CSIA airport in Mumbai launched India's most advanced airport navigation app supported through iBeacon technology and augmented reality. The app helps passengers with interactive navigation assistance, allows one to look up any section store or restaurant with just one click and enables passengers to receive information with regards to their flight.

It is easy to take a functional view of various transportation assets—be it airports, rail, highways or ports—but there is so much more opportunity

Explore Value-Creating Partnerships: Asset owners are increasingly expanding their offerings for customers and other industry players. Railways is set to introduce on-board entertainment facilities which can be accessed via a smart phone or a laptop, with an estimated market potential of ₹23 billion. Deutche Bahn, the largest rail company in Europe has launched an intermodal offering by way of bus and bike options for last mile connectivity beyond the railway station. Meanwhile, some owners have been leasing their core assets for adjacent business services. Railtel, a subsidiary of Indian Railways has built a broadband business on the rail infrastructure and is now leasing its assets to Google for high-speed Wi-Fi services. While the government of Gujarat GSECL and SunEdison have entered into a partnership to install solar panels along 19 km of the Narmada Canal to generate electricity. The project will generate 1MW clean energy per year, prevent evaporation of 9000KL of water without any additional land to set up. Following suit is the Maharashtra government which hopes to launch a 7.5MW solar power plant in Jalgaon in partnership with various private players to avoid land acquisition hassles.

It is easy to take a functional view of various transportation assets—be it airports, rail, highways or ports—but there is so much more opportunity. Asset owners must maximise the potential of their core assets in a manner that supports growth, improves customer satisfaction and also creates opportunities for generating income.

Brazil: Growth in time of turmoil

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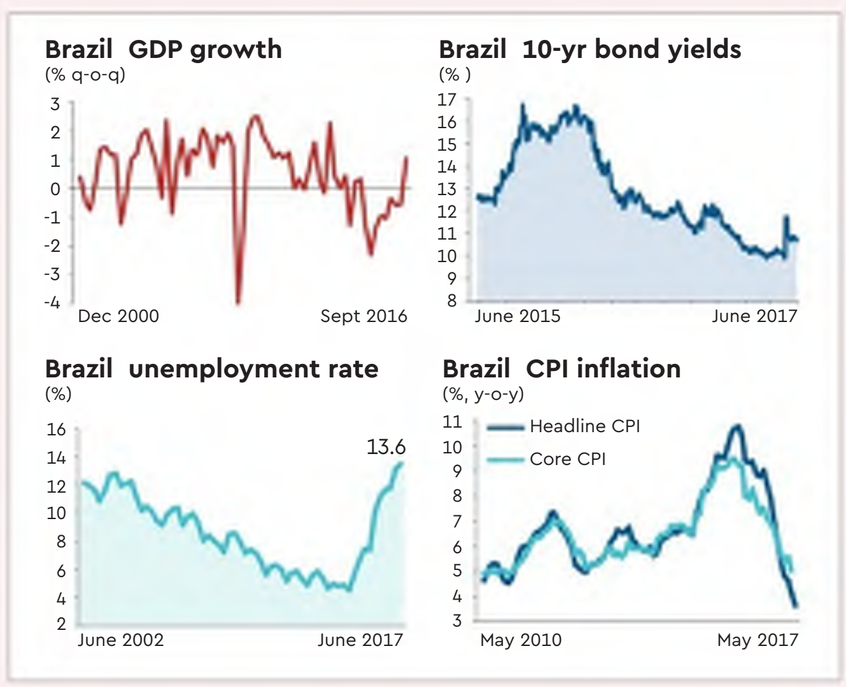
BRAZIL WENT INTO a recession, in 2014. During the early part of this phase, incidence of high inflation, capital outflows and unsustainable fiscal deficit tied its government's hands in dealing with the recession. More recently, fall in inflation has enabled its Central Bank to reduce interest rates and some of the economic data are suggesting that the economy may be emerging out of the woods. However, structural challenges and political uncertainty are likely to cast a shadow on Brazil's recovery.

The GDP declined by 3.8% (YoY) in 2015 and 3.6% in 2016. In Q1 2017, the GDP expanded by 1.1% (QoQ), after recording negative growth for eight consecutive quarters. (On an annualised basis, GDP fell 0.4% in the same period compared to a decline of 2.5% in Q4 2016). The IMF downgraded the growth forecast for Brazil following subdued activity in the last quarter of 2016 and emerging political uncertainty. According to its latest outlook, the economy is expected to grow by 0.2% in 2017, compared to the earlier forecast of 0.5%. Brazil—an export oriented economy—went into a recession in 2014 following a decline in non-energy commodity prices such as iron ore and sugar. Prior to the recession, Brazil received huge capital inflows which supported the Real's appreciation, making exports less competitive. While the expansionary monetary policy led to a historically low interest rate of 7.25% in October 2012, expansionary fiscal policy led to a sharp increase in fiscal deficit.

In 2013, the Fed's move to reduce liquidity resulted in capital outflows from Brazil. Even though there were signs of recession, monetary and fiscal policies were tightened to restrict capital outflows. This resulted in Brazil's central bank raising the interest rate to a high of 14.25% by mid-2015. The rise in interest rates raised the gross public debt to historically high levels (63% of GDP). In late 2016, the Central bank of Brazil started gradually reducing the benchmark Selic interest rate—with the latest cut in May 2017—to rejuvenate the economy. The bank has reduced interest rate by 400 bps since October 2016 to 10.25% till date. A steady decline in inflation is expected to pave the way for further rate cuts.

The headline inflation continued to decline and fell from a 12-year high of 10.7% in January 2016 (YoY) to a 10-year low of 3.6% in May 2017—due to weak consumer demand and declining food prices. This is below the central bank's official mid-point target of 4.5% (There is some flexibility, with a margin of 1.5%). Meanwhile, core inflation, which excludes food and energy, is also on a downward trajectory sliding to 5% in April 2017 from an average of 7.6% in 2016. The Central bank has projected the headline inflation to average around 4.1% in 2017 and move up to 4.5% in 2018. Unemployment rate which accelerated sharply to a record high of 13.6% in May 2017, continues to plague the economy. Industrial production recorded negative growth since early 2014 till the end of 2016. Output recovered briefly in the beginning of 2017 but went back into the negative territory in April 2017. The latest decline was led by a downturn in key sectors such as automobiles, pharmaceuticals and oil refineries.



However, select growth indicators are showing signs of reversal in trend. The manufacturing sector PMI expanded for the second consecutive month to the highest level since February 2013 to 52.0 in May 2017, suggesting further improvement.

Trade balance has remained largely positive in the last five years. There has been steady decline in Brazilian exports from pre-crisis level of $242 bn in 2013 to $185 bn in 2016, due to slow economic growth. In the same period, imports fell gradually from $240 bn to $137 bn. Brazil's primary exports include Iron ore and Soybean. During the same period, Iron Ore exports were hit due to weak prices. While minor decline was also evident in Soybean exports.

Despite a decline in the trade activity, things seem to be turning around for both exports and imports in 2017. A bumper harvest is expected to boost agricultural production and exports. Brazil recorded a trade surplus of $7.7 bn in May 2017—highest monthly surplus since 1989. Reflecting the recovery, the total balance in the first five months of 2017 amounting to $29 bn is the highest in history for the period. Brazilian Real has remained fairly range-bound since the start of the year till date. However, the currency depreciated by 9% following the corruption charges on President Michel Temer.

In the same period, Brazilian financial and bond markets also reacted strongly. Brazil's Bovespa stock index declined by 10% to 61597 in over two days—its biggest decline since the 2008. Meanwhile, the 10-year government bonds yields rose by 185 bps to 11.77. The Brazilian government has approved an austerity measure to cap public spending to the rate of inflation for 20 years along with social security reforms to gradually reduce Brazil's high budget deficit—at $49.6 bn in 2016. Spending cuts will be largely on social and welfare services. The pension expenditures are seen as a burden on government finances. Structural problems continue to pose challenges to growth in Brazil. The uncertainty surrounding the President's political future coupled with opposition from the masses could paralyse Brazil's ongoing effort to enact fiscal reforms. It would be crucial for Brazil to address the inherent structural issues in order to bring the economy back on track.