Opinion

THURSDAY, OCTOBER 24, 2019

DIALLING IT UP

Union law minister Ravi Shankar Prasad

Neither MTNL or BSNL are being closed, nor being disinvested, nor is being hired to any third party. The Union Cabinet has approved revival plan of BSNL and MTNL and in-principle merger of the two

Court order will hit phone tapping by taxman etc

Bombay High Court reiterates SC ruling that taps are justified only if public safety is endangered or in a public emergency

A T A TIME when governments—at the Centre and the states—are looking at tracking even social media messages, the Bombay High Court has done well to reiterate an individual's right to privacy and to rule that even tapping of phones that has been signed off by government officials is unlawful if it doesn't meet certain criterion. The case involves a south Mumbai businessman whom the CBI believed was bribing bank officials to get some favours in connection with a loan. The agency decided to tap his phone and, in fact, three such orders were issued; in October 2009, December 2009 and then again in February 2010. The businessman, however, approached the court to get the records destroyed since, he argued, the tapping was illegal.

The court has concurred with this and cited various rulings, starting with the famous PUCL one, to support its contention. "But the right to hold a telephone conversation in the privacy of one's home", the Supreme Court had ruled, "or office without interference can certainly be claimed as 'right to privacy'". Tapping of phones, the SC had ruled, violated a citizen's rights under Article 21 "unless it is permitted under the procedure established by law". This procedure involves the setting up of a review committee comprising the Cabinet/Law/Telecom secretary at the central government level—it is headed by the chief secretary at the state level—which was to, within two months, review the tapping order and see whether this passes the conditions laid down under Section 5(2) of the Telegraph Act. Section 5(2), in turn, talks of how there has to be either a "public emergency" or the tapping has to be "in the interest of public safety". In the case of the Mumbai businessman, the tapping orders were issued with "public safety" as the objective.

The Bombay High Court has pointed out that while there are several SC judgments that do not think tapping of telephone conversations violates privacy—which is a fundamental right—a 9-judge bench in KS Puttaswamy had accepted this principle in 2017, and this overruled earlier Constitution Bench judgments. Any infringement of the right to privacy, the court said, would have to meet certain tests; it had to be sanctioned by law, it must be necessary, it must be proportionate to the need for it and there must be procedural guarantees against the abuse of such powers. In this particular case, the Bombay High Court said, the tapping orders were not referred to the review committee which could ascertain whether they met the prescribed standards. The government officials, the court added, were not able to show that there was any risk to "the people at large", nor could they show that the move was in the "interest of the public safety". While not following proper procedure in this case was enough reason for the court to quash the tapping orders and to order that the transcripts be destroyed, it is not clear if the future benchmark for tapping is going to be just 'public emergency' and 'public safety'; if it is, the taxman or the Enforcement Directorate may find it difficult to get permission to tap phones in future. With the Supreme Court now hearing cases about whether social media messages should be traceable, and whether lawful intercepts should be allowed, the issue of the right to privacy—and how absolute it is—will come up again; in which case, there will be some more clarity on the issue.

Missing numbers

Not releasing lynching data hurts the govt's image

I T IS UNCLEAR why the data on lynching and murder committed because of religious reasons, apart from those on khap-panchayat-ordered killings and murder by influential people, have been kept out of the *Crime in India 2017* report, the National Crime Records Bureau's (NCRB's) latest compilation of crime data. Odder still, it is not as if the data for lynching weren't collected; as per *The Indian Express*, the NCRB undertook a massive data revamp exercise under former director Ish Mishra, as a part of which the sub-heads of lynching and murder for religious reasons were added to the murder classification. To be sure, an unnamed source in a news report claimed that the data weren't published because of the quality of data submitted by the states being unreliable. However, in such a case, it is hard to see why the rest of the data submitted by the states were considered to be of sound quality. Given how lynching incidents—for a host of reasons, from suspected theft, child lifting, cattle smuggling/slaughter or communal reasons—have dominated headlines, and both the Centre and the states have been blamed for failing to crack down in a manner that deters such crime, data on lynching is seen by criminology experts to be a key part of what should inform government policies on tackling such crimes better.

The fact is that there have been private attempts at recording the rise in lynchings, often led by media houses, but such attempts have come under criticism for a host of shortcomings, from allegedly being biased against one community or the other in recording these incidents to ascribing the wrong reasons for incidents, and even failing to record incidents covered in regional language media given the reliance on English media reportage for sourcing data. That said, the need to dissect lynching to proactively prevent incidents couldn't have been more urgent than it is now. It is in the best interest of the government to publish the data, even if it eventually spins an inconvenient narrative for one or the other political ideology, given how not publishing is going to bolster the notion that the government is deliberately hiding the data. With leaders of the ruling party and of its ideological fount, the RSS, having either failed to criticise lynching in concrete terms or having even come out in support of the accused, the government can ill afford to have another controversy over data, quite in the manner of the one over the unemployment data that raged at the time of the general elections. More so, given the data shows a marked increase in number of crimes against the state, including sedition, a charge that the authorities have slapped against individuals in a trigger happy manner. At the very least, the government must spell out the reasons why the lynching and other data have not been released, and commit to an early date of publishing of the same.

MilkMATTERS

FSSAI milk study shows contaminants a key concern, management must begin early in the value-chain

T HE FOOD SAFETY and Standards Authority of India's (FSSAI's) national survey to test for adulteration and contamination in milk has thrown up some significant findings. Of the 6,432 samples collected last year between May and October from 1,100 cities, 93% were found to be safe for consumption. The samples were tested for 13 adulterants and three contaminants (antibiotics, aflatoxin M1, and pesticides). The FSSAI had noted that contamination was a bigger problem than adulteration when consuming milk—processed or raw. The survey found antibiotics above the prescribed norms in 77 samples. But, the biggest concern has been the presence of aflatoxin M1 in some samples.

Aflatoxin M1 is a deadly carcinogen whose consumption—of about one mg/kg or higher—can lead to aflatoxicosis, eventually causing death. The survey noted that out of the 6,432 samples, 368 (5.7%) had aflatoxin beyond the permissible limits. The highest concentration of aflatoxin was found in samples from Delhi, Kerala and Tamil Nadu. FSSAI notes that the presence of aflatoxin can be attributed to the cattle-feed and fodder. Aflatoxins are produced by certain fungi present in crops like maize, cotton seeds, etc. Improper storage, in humid and warm conditions, lead to the creation of aflatoxin in the harvest, which then passes on from the fodder to cattle, and from cattle to milk. Given milk is a staple for children, the regulatory framework must ensure that contamination from toxic cattle feed is prevented. Farmers and warehouse personnel need to be trained in safe storage practices. The problem of contaminants is compounded given their presence in milk products is yet to be studied. The government also needs to crack down on antibiotic abuse in agriculture to ensure that antibiotics levels don't shoot up in milk and other food.

● IMMIGRATION ECONOMY

AT A TIME WHEN US PRODUCTIVITY GROWTH AND NEW BUSINESS FORMATION ARE LOW, ADMITTING MORE H-1B WORKERS SEEMS LIKE AN OBVIOUS MOVE

A case for more H1-B visas for Indians

NOAH SMITH
Bloomberg

I N THE TEMPESTUOUS debates about immigration policy, the humble H-1B temporary visa tends to be overlooked. Streams of desperate Central Americans marching toward the border tend to evoke strong emotions on all sides, while tech professionals from India working in Silicon Valley elicit fewer objections. But H-1B workers are important to national prosperity, and the program is under threat from the Donald Trump administration.

Though these visas normally expire after six years, the H-1B effectively functions as a trial period for high-skilled immigrants. Often, it gives a worker a chance to become established and apply for permanent residence, while it gives their employer the ability to try them out. Without it, fewer skilled immigrants would be able to work in the US.

H-1B workers contribute a lot to innovation and economic dynamism. A 2010 study by economists William Kerr and William Lincoln, for example, found that when H-1B admissions were increased in the 1990s, patents attributable to people with Chinese and Indian surnames increased, while patents by people with Anglo-Saxon names didn't fall. And a recent paper by economists Stephen Dimmock, Jiekun Huang and Scott Weisbenner found that companies that win the H-1B visa lottery—which is held in years when applications exceed the number of visas—tend to receive more venture-capital funding, tend to be more successful and produce more patents.

Furthermore, H-1Bs help native-born workers. Studies by economists Giovanni Peri, Kevin Shih and Chad Sparber, comparing across cities, have found that allowing in more H-1B workers raises wages for native-born high-skilled US workers, and doesn't hurt their employment levels.

The reason is what economists call clustering effects. The more H-1B workers move to a city, the more tech companies want to locate their offices, factories and research facilities in that city. When tech companies cluster together in a city, it raises local productivity, and it also prevents high-value jobs from being off-shored to India or China. Ironically, even if individual companies want H-1B workers in order to hold down wages, the presence of lots of H-1B workers ends up raising wages overall.

At a time when US productivity growth and new business formation are low, admitting more H-1B workers seems like an obvious move. The number of H-1B workers rose in the first half of the decade, despite the official cap of 85,000 a year. But, this is largely because of hiring at institutions that are exempt from the cap, such as universities and non-profits. Companies, in turn, are being starved of the foreign talent they need to expand and grow. The official cap on H-1B visas, which constrains the number of workers private businesses can hire, was allowed to fall by more than half in 2004, and hasn't been raised since.

Now, the Trump administration has launched a new attack on H-1B workers. Denial rates for H-1B applications have soared.

US Citizenship and Immigration Services reports show that the reduction is intentional. For now, the effort hasn't done much to lower the number of H-1Bs; many of the denials are overruled and the number of applications hasn't dropped by much, meaning that the cap is still being hit every year. But Trump and his administration are clearly trying to reduce the inflow of skilled workers.

Why the hostility toward H-1Bs, especially when opinion polls show overwhelming support for skilled immigration? Given Trump's rhetoric and reputation, race may have something to do with it; about three-quarters of H-1B petitions are for Indian workers, and China and India together represent more than 85% of the total. There is also a longstanding concern that many of the visas are being taken by outsourcing companies that add little to American innovation and dynamism.

But unfounded worry over wage competition is surely a big reason for antipathy toward H-1Bs. H-1B workers in the technology industry tend to be paid less than their native-born counterparts, suggesting that employers use foreign workers to try and hold down pay. And many H-1B opponents think they know the reason; visa holders, they allege, are tethered to a single employer, unable to change jobs for fear of being forced to leave the country. A worker who can't switch companies probably will accept less in compensation. For this reason, some commentators have likened the H-1B program to indentured servitude.

This criticism is vastly overblown. A law passed in 2000 made H-1B visas much more portable. An H-1B holder can now switch employers and start working before the paperwork is approved. Even if an H-1B worker is laid off, he or she can stay in the country for 60 days to find a new job.

Although the H-1B program does have its flaws, it is a good program, and it should be expanded. More skilled foreign workers aren't going to hurt native-born Americans; they are here to help.

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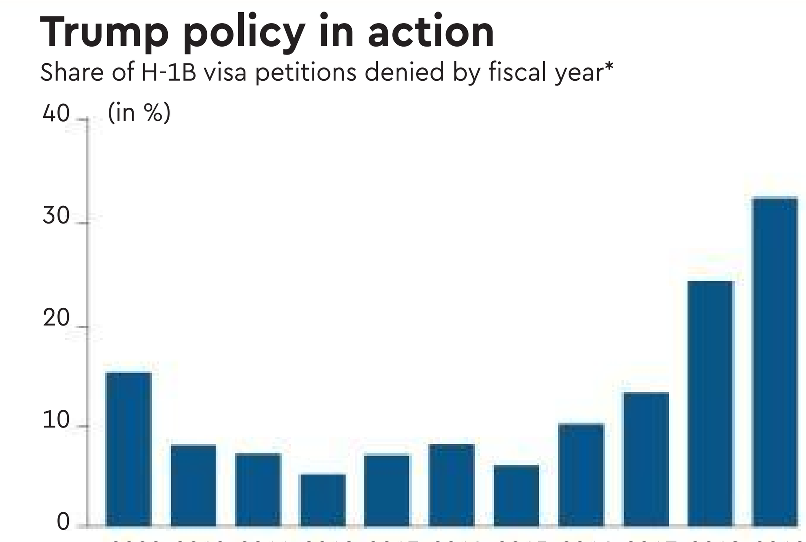
Stuck since 2004

H-1B visa cap, including extra quota for masters degree holders

Source: Redbus/Bloomberg

Trump policy in action

Share of H-1B visa petitions denied by fiscal year*



*Through the first quarter of FY19

Source: Bloomberg

India's EoDB rank no cheer for MSMEs

The Sinha Committee recommendation for an impersonal, digital Information Utility is our best bet to improve the payments culture, not additional compliances

SUMITA KALE
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WILL INDIA GET a Diwali gift later today by breaking into the ranks of the top 50 in Ease of Doing Business (EoDB)? India has made a significant rise in the global ranking from 142 to 77 over the past six years, thanks to concerted efforts from the government, and the answer will be known today. Unfortunately, a significantly higher rank now may get a lukewarm response from businesses in general, and MSMEs in particular. There are two reasons for this. The first is technical—reform is a continuous process, and the Doing Business ranking is an annual exercise for the World Bank. Consequently, all the recent changes that the government has introduced, since June 2019, will only be accounted for in the World Bank's report next year. Meanwhile, Indian businesses have already discounted the gains from last year and are focused on today's pain.

The second reason is that, all said and done, the World Bank study has its limitations for Indian entrepreneurs. As a global study, the ranking is based on 41 indicators across 10 categories to arrive at the performance of a country relative to the best performing country. But a small firm in India is grappling with regulatory cholesterol that goes way beyond those 41 indicators. With 58,000+ compliances, 3,000+ filings and 2,500+ updates, the compliance burden is complex and fluid. MSMEs are, for the most part, run by single entrepreneurs, and they bear a disproportionate compliance burden, compared to large companies. Handling the existing paperwork and staying updated with frequent legal changes drains their productivity and curbs their capacity to grow.

To make matters worse, additional compliances are the bureaucracy's answer to most problems. For instance, in conversations with Pune-based MSMEs on EoDB, we found that the World Bank ranking is far from their minds. The single biggest hurdle they face is the strain on working capital. Not only are they severely strapped for cash, thanks to delayed payments from big buyers, they have been further burdened this year with an additional compliance in the form of a half yearly return on outstanding dues to micro and small enterprises (MSME Form 1).

That delayed payments are the bane of an MSME entrepreneur's life is a well-documented problem for decades that has been resistant to all regulatory moves so far. In 2006, the government mandated that payments to MSMEs cannot be delayed beyond 45 days, stiff penalties were instituted. This had little impact, given the low bargaining power of MSMEs. In 2012, companies with audited accounts were instructed to make disclosures on outstanding dues to MSMEs in their annual reports. The problem persisted. In 2015, a redress mechanism was set up, through an online portal (MSME *SAMADHAAN*—Delayed Payment Monitoring System). Yet, given the fear of reprisal, small firms are loathe to complain in open. So far, just 27,455 applications have been filed by MSMEs on the portal for outstanding dues worth ₹7,161 crore. In other words, less than half a percent of the 7.7 million units with Udyog Aadhaar have filed complaints on the portal. Ironically, the government itself comes through with a poor payments and redressal culture—more than 60% of the 2,861 applications pending against central and state governments, and departments have been unaddressed for more than 90 days. The finance minister recently urged large companies to clear the ₹40,000 crore dues owed to MSMEs—the amount owed by large companies is close to 9% of the outstanding loans from banks to MSMEs. This record of delayed payments, of delayed redressal, despite strict laws and open redressal system, does not, in any way, make for ease of doing business.

In June, the UK Sinha committee on MSMEs put out an excellent recommendation to set up an Information Utility (IU) to identify defaulters. To tackle the issue of asymmetry of power, an amendment of the MSME Act, 2006 has been sought such that all MSMEs mandatorily upload all their invoices above a specified amount (the committee suggested ₹1 crore, but it could be lower) on the IU portal. A designated authority would then act as an intermediary, use the data on unpaid bills and then write to the defaulters to clear the bill within the next month. By automatically generating the details of defaulters online, there would be transparency to lenders, rating agencies and other MSMEs. While this solution needs more discussion with industry associations to iron out any concerns, the method of naming and shaming, through a third party, without initiation by the MSME could work to encourage an honest payments culture.

A digital, impersonal, transparent solution should have a better impact than a compliance driven one. In any case, the government should do away with the MSME Form 1, which is the half yearly return with the Registrar of Companies on outstanding payments to micro or small enterprises. Instituted early this year, this form asks all companies, including MSMEs, to give details on outstanding dues to micro and small companies, and reasons for those. This half yearly return has increased the compliance burden on MSMEs and more pertinently, the additional paperwork has had no impact on improving the culture of payments. As a starting point, the MCA can consider mandating this return only for large companies, with turnover more than ₹250 crore.

A $5 trillion economy may seem far on the horizon for now, but faster growth cannot be achieved without greater productivity. Even if India breaks into the top 50 later today, our MSMEs will cheer only when they see an overhaul of the regulatory sludge that is sapping their energy today.

LETTERS TO THE EDITOR

Time for one election

While multiple and long-drawn polls are a compulsion on account of security reasons, it is crucial to optimise the process, reduce the cost towards futile campaigns and expedite the pace of development-projects across states. It is time to work towards phased-consolidation of the polling process and progressive-efforts must be carried out to achieve higher productivity/cost-effectiveness, by spacing-out the polls. In a federal structure with a multi-party system, the larger public-interest demands, a collaborative work-relation among political-entities, to boost growth and solidarity. Irrespective of the timing/frequency, elections ought to be envisioned as a mechanism to address the civic, state and national issues—and not as a platform to allege or derogate counterparts. One-Election is therefore expected to be a viable and perhaps the only option in near-future, to fulfill the key socio-economic goals over vested interests. Sovereign-goodwill demands stability and a unified leadership over the entire-term, to attain consensus on matters of national-importance and attract/sustain public-cheer in the long-run. That said, a one-time nationwide poll is challenging to implement on account of machine/manpower needs, besides difficulties in synchronising tenures among governments at states and the Centre. Also, the poll-process ought to address local as well as national issues equitably and overcome the rare scenario of an unstable government being elected/voted to power for the entire-term. Availability of resources in a vast geography and increased acceptance towards a representative-style of democracy, are must-have to accomplish the seamless transition and attain the desired economies-of-scale.

— Girish Lalwani, Delhi

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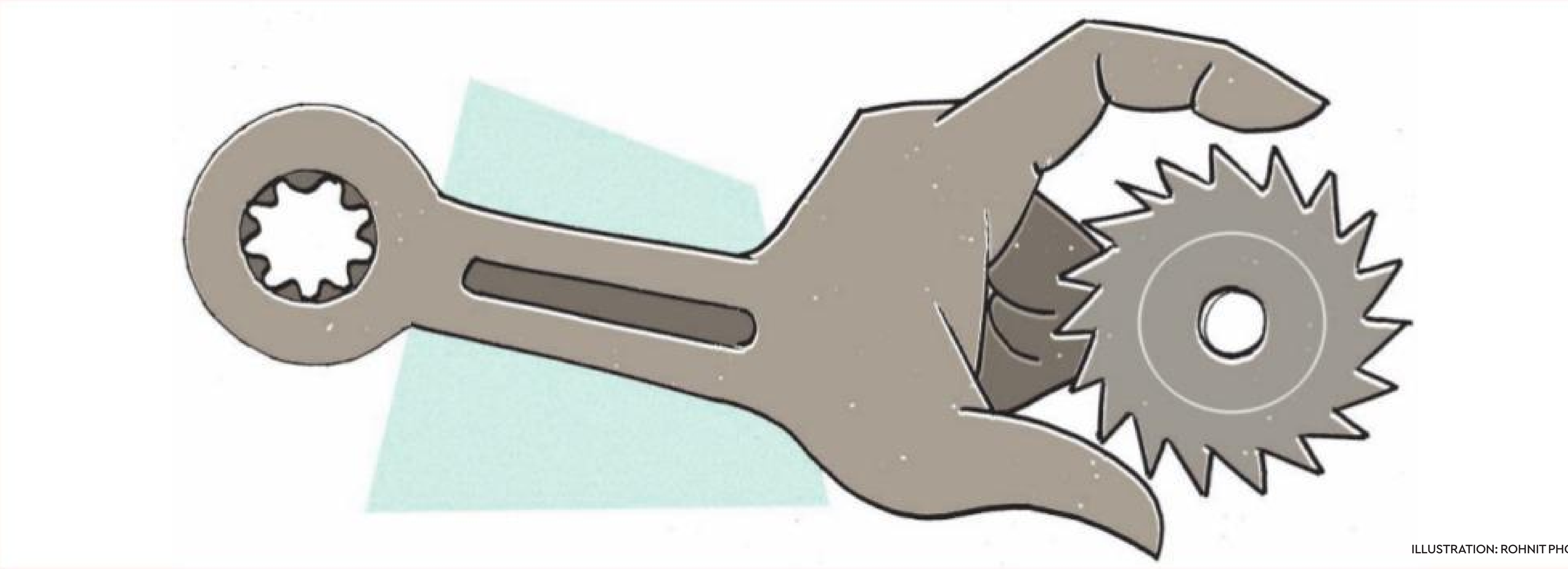
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What drives long-term economic growth?

The challenge before India is to sustain both economic and social development simultaneously. There are areas where India has done well. Quality of business environment has improved, investments in physical infrastructure continue in earnest, Poshan Abhiyaan has been launched. These are productivity-enhancing measures that will support growth over the next decade

RECENTLY, THE TERM 'middle-income trap' has made a comeback in the Indian context as fears that the country may find itself caught in this trap loom large. Conceptually, the 'middle-income trap' refers to the phenomenon where countries attain certain 'middle-income' levels after which growth stagnates. Can this trap be avoided? What explains rapid growth in countries and then slowdowns?

Economists have explained rapid growth in low-income countries through the idea of convergence (or catch-up growth). The idea is simple—the larger the gap between the 'leader' and the 'follower', the faster the catch-up growth. However, once income levels begin to converge with that of the leader, i.e. the gap becomes smaller, growth slows down as well. This implies that there is a certain 'advantage to backwardness'.

However, renowned economist Lant Pritchett notes that a feature of modern economic history is that of divergence in the productivity levels and living standards of economies. Of course, there have been exceptions—consider Japan and other East Asian Countries as examples. These countries were successfully transitioned from low-income to high-income countries in the span of a few decades.

He demonstrates that being technologically behind is not enough to sustain 'catch-up' growth, implying that convergence may be conditional. Pritchett leaves us with four important questions to ponder over when considering the dynamics of India's growth story:

First, what accounts for continued per-capita growth and technological progress of those countries leading the frontier? Second, what accounts for the few countries that are able to initiate and sustain catch-up growth? Third, what accounts for why some countries lose growth momentum? Fourth, what accounts for why countries remain in low growth for a long period?

Pritchett's second and third questions are relevant to India's growth story, going forward. To answer the second question, I look at what the economic growth theory says. Broadly speaking, the literature on economic growth can be divided into two strands: exogenous growth and endogenous growth.

Central to the exogenous growth theory is the idea of 'total factor productivity' (TFP), popularly known as the Solow Residual. According to the Solow-Swan Model, factor accumulation (capital, labour) and TFP determine output. Given the underlying assumption of diminishing marginal returns to capital, technological change is the driving force behind growth in this model. However, the model stops short of telling us what the determinants of TFP growth are, assuming it to be exogenous. In essence, this theory implies that growth is fuelled by technological progress, independent or 'exogenous' of economic forces. This assumption of exogenous technological change led to the development of endogenous growth theory, popularised by Nobel Prize winning economists such as Robert Lucas Jr. and Paul Romer.

Endogenous growth models also see technology as the driver of long-run growth, but also hypothesise that technological progress is dependent on the decisions of economic agents, in contradiction to exogenous growth theory. So, growth in this model comes as a result of our usual factors of production (land and labour), but also knowledge accumulation.

However, both of these models (along with their various extensions) have been unable to fully explain the large differences in cross-country incomes. The conditional convergence hypothesis implies that being behind on the technological frontier is not enough to kick-start catch-up growth. The Solow-Swan Model implies that differences in capital account for little of cross-country income differences. Endogenous growth models further imply that technology is non-rival, therefore differences in technology are unlikely to explain cross-country income differences.

Despite different approaches in accounting for growth, the primacy of productivity is clear. This leads us to answer Pritchett's third question—why countries lose growth momentum? Could cross-country income differences potentially be explained by how well countries are able to utilise the given level of technology?

A World Bank working paper titled 'Avoiding Middle Income Traps' demonstrates that 85% of the slowdown in growth is explained through declining TFP growth. The hypothesis here is that the factors that generated growth at low-income levels tend to lose relevance as a country moves up income levels. This implies that the factors that support growth must evolve along with growth to take advantage of the new opportunities on offer.

We need to dig deeper to understand these differences. Social infrastructure, or social capability, has been identified as a key determinant. Here, the hypothesis is that social capability defines the ability of a country to absorb and exploit new technologies. It can also be thought of as the institutions and policies that align private and social returns to activities. In essence, social capability and infrastructure can be thought of as national competitiveness à la Michael Porter.

How does one go about estimating productivity? In a recent World Bank working paper, Kim & Loayza (2019) estimate the determinants of TFP through a panel of countries. Education emerges as a key driver of productivity in developing countries, supported by infrastructure, institutions, market efficiency and innovation. Missing, however, from their analysis is the role of health and nutrition.

The recently released Global Competitiveness Index (GCI) by the World Economic Forum (WEF) measures competitiveness or productivity through 12 pillars: institutions, infrastructure, ICT adoption, macroeconomic stability, health, skills, product market efficiency, labour markets, financial systems, market size, business dynamism and innovation capability. Both approaches include similar indicators to measure competitiveness or productivity.

The challenge before India is to sustain both economic and social development simultaneously. There are several areas where India has done well. Quality of the business environment has improved substantially, as evidenced by our performance on the Ease of Doing Business. Whilst macroeconomic stability has been achieved, the current growth slowdown has spurred reforms in key areas, such as the reduction in corporate tax rates. Investments in physical infrastructure continue in earnest, with the current regime committing ₹100 lakh crore worth of investments in infrastructure. Poshan Abhiyaan has been launched to improve nutritional outcomes. These are all productivity-enhancing measures that will support growth over the next decade.

> India must increase its social capability to enhance our ability to absorb and exploit current technologies

A key takeaway from the GCI 2019 is that a balance needs to be struck between technology integration and human capital investments. Growth-enhancing structural reforms need to be complemented with investments in human capital. In terms of education, a focus on outcomes, along with raising public investments, emerge as macro-level goals. The focus on primary health and nutrition must continue. For example, as per World Bank data, India's current expenditure on health (as a percentage of GDP) stood at 3.7% in 2016. In comparison, upper-middle income countries spent 5.9% of GDP on current health expenditures. China spent close to 5% in 2016 as well.

India must increase its social capability to enhance our ability to absorb and exploit current technologies. Only then will we witness sustained productivity growth that will drive our growth story.

ECONOMIC SLOWDOWN

Centre alone can't be blamed

HIMANSHU GUPTA
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States must become engines of growth, with the Centre facilitating them

THE GDP GROWTH rate for the first quarter showed that the Indian economy grew at its slowest pace in over six years. It became a point of debate as to who is responsible for this slowdown. Majority of the people targeted the Centre and its policies in the recent past for this sharp deceleration. However, problems in the economy are structural in nature that require a change in thinking by both the Centre and states.

If we look at the Budget 2019 and 14th Finance Commission Report, we find 42% of the divisible pool of taxes are given to states. Many states are demanding to the 15th Finance Commission that this vertical devolution should further increase. These untied grants to states are over and above the funds provided under central sector and centrally-sponsored schemes by the Union government. While central sector schemes are 100% financed by the Centre, centrally-sponsored schemes are partly financed by the Centre and state governments in the ratio varying from 90:10 (in the case of Northeast states) to 50:50 in other states.

Some important schemes in key sectors running in states are Integrated Samagra Shiksha Yojana (education), National Health Mission (health), National Rural Drinking Water Program (water), Saubhagya and Integrated Power Development Scheme (power), Pradhan Mantri Gram Sadak Yojana (rural roads), Pradhan Mantri Krishi Sinchayee Yojana (agriculture), National Programme for Dairy Development (animal husbandry), etc. In fact, all the key flagship schemes running in states are centrally-sponsored schemes.

If we wish to become a $5-trillion economy by 2024, we need to improve the capability of states to drive as engines of growth. A paradigm shift is required while doling out funds to states. Each scheme must have a component of performance-linked funds so that states compete for improving their performance. Funds must be linked with conditionalities so that states bring reforms. As an example, under the Integrated Samagra Shiksha Yojana, some states have improved their school results effectively. But there are also others where learning outcomes have not improved despite huge funding. The primary reason is shoddy recruitment process followed in states and thereafter unionisation of such teachers to get regularised. There are also instances of teachers putting political pressures to stay in headquarters, thereby making the student-teacher ratio skewed in remote schools. Thus, there is a need of invoking conditionalities like recruitment of teachers through independent service board/commission, maintaining ideal pupil-teacher ratio in schools, etc, before releasing funds to states.

GST is an important step towards cooperative federalism where states and the Centre come together to form common policies and adopt uniform tax rates. In the short term, this may lead to some slowdown, but it is an important course-correction legislation that will bring structural reforms in the economy in the times to come.

To improve productivity in agriculture and allied sector, we must change our approach of giving piecemeal funds to cover maximum beneficiaries. The Centre should guide states to identify progressive farmers, give them comprehensive training, technology and enhanced financial outlays so that the income of progressive farmers increases considerably, thereby motivating others to replicate. Investment in value-chain addition should be increased by forming cooperatives and incentivising state governments to set up primary and secondary processing units and provide seamless logistical support for realising the optimum cost of produce. Waiving off agriculture loans or increasing the limits for priority sector lending alone will not boost agriculture. Till the time states are forced to bring reforms and invest in this sector, we cannot double farmers' incomes by 2022.

To increase industrial output, we need to create enabling infrastructure for industries. It requires a coordinated effort of both the Centre and states. Majority of the enabling infrastructure like reliable power supply, external utilities, law and order, etc, is the responsibility of state governments.

We often find short-term solutions and give instant relief to the problems that crop up. However, it will be prudent to identify structural issues that our federal set-up is facing and bring reforms so that our economy comes on track in the long term, with states becoming engines of growth and the Centre facilitating them.

Will air pollution in Delhi abate?

We must execute the Graded Response Action Plan of the EPCA in letter and spirit

PP SANGAL
The author is a former ISS and UN consultant

FROM MEDIA REPORTS, it is observed that the Delhi government, the National Green Tribunal (NGT), the Central Pollution Control Board (CPCB), the Supreme Court-appointed EPCA (Environment Pollution Control Authority), governments of adjoining states (Punjab, Haryana and Uttar Pradesh, and their pollution control boards) are all showing alertness in fighting air pollution in the Capital well in time. Now, the real test lies in coordinating their actions for implementation of various measures. The challenges are already known based on our experience of last many years.

Air pollution in Delhi is contributed by the presence of PM 2.5 and PM 10 particles, carbon dioxide, carbon monoxide, nitrogen oxides, sulphur dioxide, garbage dumps and landfills containing plastics, etc. The main sources of all this are (1) transport system, (2) construction/demolition activities, (3) road sweeping, (4) coal-fired power plants and brick-kilns, and (5) most importantly, rice stubble burning in the bordering states in the months of October and November every year.

Let me first discuss the existing scenario of stubble burning this winter, as it is a major contributor to air pollution as usual. According to scientists at NASA, there may be spikes in farm fires this winter. It is because their satellite images suggest that crop harvest in Punjab and Haryana this year may be at the historical highs because of monsoon staying longer and some local factors. Consequently, much more paddy straw—about 200 lakh metric tonnes—is likely to be generated, increasing farm fires. Here, it may be noted that 1 tonne of stubble releases 2 kg of sulphur dioxide, 3 kg of particulate matter, 60 kg of carbon monoxide, 1,460 kg of carbon dioxide and 199 kg of ash. Just imagine the havoc burning 200 lakh tonnes will do. NASA has found this in advance by calculating what is called the normalised difference vegetation index (NDVI)—a measure devised for greenness that can indicate crop or vegetation cover. Further, NASA data shows that between 2002 and 2018, the most number of stubble burning cases reported were in 2016, at 18,000. This year, we expect the figure may be 16,000 or so, but fearing detection by satellites, farmers may light fire in small pockets not caught by satellites.

According to a recent CPCB report, the annual average of PM 2.5 levels during 2016-18 (at 115 micrograms per cubic metre, which is three times the safe limit prescribed by the WHO) is 25% lower than the average during 2012-14. However, Delhi's average level needs to be lower by 65% to meet the standards under the National Clean Air Programme (NCAP), which is a long way to go.

The government of Delhi has introduced a number of measures during the last few years but without any real respite from air pollution. In view of this, it is necessary to review the various steps taken by the government to increase their effectiveness. The main ones are as under:

- There are certain guidelines for agencies while carrying out construction work, for avoiding and controlling dust, but these are not being strictly followed.
- Using mechanical road sweeping machines is a must to bring down dust. It is observed that four civic bodies (having, among them, 56 such machines) are not effectively utilising their machines primarily because of poor maintenance due to non-availability of spare parts. The average road length swept currently is 38 km per shift of 8-10 hours, instead of the road length of 80-100 km per day according to a study by TERI. Dumping of dust collected by machines (a machine collects 1.13 to 4.1 tonnes per shift) is another problem that needs to be fixed soon.
- Reduce stubble burning sufficiently in adjoining states by increasing awareness amongst farmers and providing happy seeders for sowing and other necessary mechanical devices through necessary financial incentives.
- Measures like staggered office timings, banning diesel gensets and shutting down of industrial units based on coal and biomass and brick-kilns during winter is not being resorted to.

Besides the above, it is suggested that the following long-term measures to combat the menace of air pollution, which, in course of time, may engulf many more cities in India, be taken:

- Planting of saplings should be done in very large numbers to compensate for highly reduced green cover over a period, and don't cut trees in the future. These are our greatest carbon sinks, along with water bodies and soil.
- Increase the number of public transport buses drastically. In fact, during the last 10 years, the number of buses has gone down to 5,500 from 6,329, while we need 11,000 buses to meet the demand and also increase dependence on public transport to reduce air pollution.
- Cloud seeding and artificial rainfall can play an important part in bringing down air pollution. It is heartening that IIT Kanpur has been awarded a project by the CPCB in this area.
- Install gigantic air purifiers, and it is now learnt that the National Environmental Engineering Research Institute (NEERI) is working on a variant of WAYU that caters to 500 sq-m.
- Introduce congestion pricing. This means that vehicle owners need to pay extra to enter the busiest and most congested parts of the city, and we have already identified 12 such hotspots in Delhi. Singapore, Stockholm and London are doing this. The recent RFID system (introduced by the School of Planning and Architecture) for commercial vehicles entering Delhi is an example of congestion pricing that has worked.
- Innovative ideas like creating vertical gardens on all public buildings/spaces (like in Singapore) to replace the greenery lost on the ground, and providing water sprinklers behind all two-wheelers are being suggested and the feasibility of these may be examined sincerely.

To conclude, intensive ground monitoring and the implementation of the above measures is key to combating air pollution in Delhi NCR. We should be fully ready to execute the Graded Response Action Plan of the EPCA in letter and spirit.