



The gap within

We need to address the issue of slower growth in our poorer States

India, as the world's fastest-growing major economy, may well be catching up with the richer economies in terms of absolute size. But economic convergence within the country remains a distant dream as poorer States continue to lag behind the richer ones in economic growth. A report from the rating agency Crisil found that the inter-State disparities have widened in recent years even as the larger economy grows in size and influence on the global stage. Many low-income States have experienced isolated years of strong economic growth above the national average. Bihar, in fact, was the fastest-growing State this year among the 17 non-special category States evaluated by the report. But they have still failed to bridge their widening gap with the richer States since they have simply not been able to maintain a healthy growth rate over a sustained period of time. Richer States like Gujarat, for instance, have been able to achieve sustained economic growth and increase their gap over other States. The report found that there was a slight, albeit weak, convergence in the per capita income levels of the poorer and richer States between fiscal years 2008 and 2013, but the trend was reversed in the subsequent years. Between fiscal years 2013 and 2018, there has been a significant divergence rather than convergence in the economic fortunes of the poorer and richer States. This was the result of richer States continuing to show strong growth while the poorer States fell behind. In fact, only two of the eight low-income States in 2013 had growth rates above the national average over the next five years. On the other hand, six out of the nine high-income States recorded rates higher than the national average during 2013-18.

What explains the divergence in the economic fortunes of States? The report suggests that, at least during fiscal year 2018, government spending may be what boosted gross domestic product growth in the top-performing States, particularly in Bihar and Andhra Pradesh whose double-digit growth rates have come along with a burgeoning fiscal deficit. The impact of greater spending was that 10 of the 17 States breached the 3% fiscal deficit limit set by the Fiscal Responsibility and Budget Management Act. Many other big-spending States, however, have not managed to achieve growth above the national average. Punjab and Kerala, which are at the bottom of the growth table, are ranked as profligates by the report. This suggests that the size of public spending is probably not what differentiates the richer States from the poorer ones. Other variables like the strength of State-level institutions, as gauged by their ability to uphold the rule of law and create a free, competitive marketplace for businesses to thrive, and the quality of public spending could be crucial determinants of the long-run growth prospects of States.

A reckless experiment

Editing the 'human germline' is an exercise fraught with unknown risks

The saga of the Chinese scientist who created the world's first gene-edited babies last November has forced researchers everywhere to take a hard look at the ethics of gene-editing. Chinese authorities have since condemned the researcher, He Jiankui, with a government report this week saying he violated both ethics and laws. But though Mr. He's actions drew international outrage, they weren't revolutionary in technological terms. Editing DNA to correct disease mutations has been possible for a while now, which means others can also do what Mr. He did. The promises of such gene-editing are boundless; over a dozen clinical trials are currently on to treat diseases like HIV, multiple myeloma and other forms of cancer, using the Crispr-Cas9 editing system. But none of them involve editing the so-called human germ-line; instead, they have restricted themselves to fixing genetic flaws in sick adults. In contrast, Mr. He deactivated a gene in two human embryos, which means that the changes he made could be inherited by the next generation. In doing so, he violated the widely held ethical consensus that it is too early for germline editing, for we simply don't know enough yet about the risks of such fiddling.

One pitfall of embryo gene-editing is that it is not as precise as we need it to be today. Studies have shown that the technology can result in unintended mutations, which in turn can cause cancers. Then there is the danger of mosaicism, in which some cells inherit the target mutation, while others don't. To be sure, the error-rates of Crispr are falling with each passing year. But we aren't in the clear yet. What is more, even when gene-editing becomes fool-proof, the decision to edit embryos will still be a weighty one. This is because, today, scientists are far from understanding how exactly individual genes influence phenotypes, or the visible traits of people. Every gene likely influences multiple traits, depending on the environment it interacts with. This makes it hard to predict the ultimate outcome of an embryo-editing exercise without decades of follow-up. This uncertainty became evident in Mr. He's experiment, in which he sought to immunise a pair of twins from HIV by tinkering with a gene called CCR5. The problem is that while protecting against HIV, a deactivated CCR5 gene can also make people more susceptible to West-Nile Fever. Every gene influences such trade-offs, which scientists barely understand today. This is why several scientific societies have advised abundant caution while fiddling with the human germline. In a 2017 report, the U.S.'s National Academies of Sciences, Engineering, and Medicine said such an intervention would be defensible only in very rare situations, where no alternative exists. The He Jiankui incident shows it is time to translate these advisories into regulations. Unless this happens, the Crispr revolution could well go awry.

An electoral intervention that has clicked

Improvements to the EVM are certainly possible, but a return to paper ballots is an untenable proposition



Srinivasan Ramani

The implementation or evaluation of any policy decision must consider not just abstract reasoning but base it on empirical and historical evidence. This holds true for the debate on the question of persisting with the electronic voting machine, or EVM, in the Indian electoral process. Much has been said by commentators and political party representatives about the futility of using the EVM because of the possibility of electoral fraud by manipulating the technology that drives the machine. Informed critiques of the EVM and its handling have helped in some ways, one of them being the universal implementation of the Voter Verifiable Paper Audit Trail (VVPAT) that allows for a layer of verification to the electoral process.

Misrepresentation

But more often than not, there have been accusations made about the EVM that do not stand up to scrutiny or reality, primarily made by political parties that have chosen to blame EVM manipulation as an easy excuse for their losses in various elections. Also, despite there being barely any shred of evidence to show that any election held recently was subject to electoral fraud through a manipulation of EVMs, and repeated assurances by the Election Commission of India (ECI) of the robustness of the administrative and technical safeguards in place to prevent EVM tampering, the swirl of accusations refuses to die down.

While glitches and machine failures have been reported or misrepresented as outcomes of "EVM hacking", administrative errors in transporting the machines have been presented as evidence of tampering. The fact that glitches being reported have gone up is true enough. The replacement rate for machines deployed in the by-elections of Uttar Pradesh in 2018 went up to as high as 20% because of failures – primarily of the VVPAT machine that is adjunct to the control and ballot units of the EVM. These glitches had caused difficulties in conducting polls in the Karnataka Assembly elections, in May 2018, as well. But there were specific reasons for these.

Complex layer

The introduction of the VVPAT to allow for a paper count of the registered votes has also added a level of complexity to the otherwise simple technology that runs the EVM. The VVPAT was also rushed into service because of the constant carping about the possibility of EVM hacking by political parties. The VVPAT failure rates were high early on in elections held in late 2017 and early 2018, with hardware issues occurring during transportation and exposure to extreme weather conditions. The ECI sought to correct these problems by repairing components related to the printing spool of the VVPAT machines and the deployment of many corrected machines in the three Assembly elections held recently – Madhya Pradesh, Rajasthan and Chhattisgarh – resulted in much reduced replacement rates (close to 2.5% in Madhya Pradesh and 1.9% in Chhattisgarh). This suggests that the ECI is relatively better prepared to handle VVPAT-related glitches in the upcoming Lok Sabha elections.

The VVPAT's introduction and



use is also necessary to address doubts related to the possibility of EVM hacking despite the safeguards in place.

Checks and balances

The ECI has reassured us many a time that the simplicity of the architecture of the EVM (software written onto a one-time programmable chip; standalone machines that are not networked; the lack of any frequency receiver or wireless decoder that will allow for communication externally; and advancements in newly deployed machines that allow for self-diagnostics to render the machines tamper-proof among other things) has helped it evade some of the misgivings experienced by EVMs used in other countries.

Combining this with administrative safeguards that allow for rigorous checks at various levels, such as after manufacture, during deployment, and so on; randomisation of deployment of machines, a listing of candidates in alphabetical order rather than on party basis on ballot units; sealing of machines by political party representatives after polling and storing in high security "strong rooms", the ECI has asserted that all these have made tampering impossible.

With these safeguards in place, it would require "insider mis-

chief" by officials of the ECI, or by employees of the EVM manufacturers (Bharat Electronics Limited and the Electronics Corporation of India Limited) or the introduction of Trojans (malicious software) at the chip burning stage (a process currently outsourced to overseas firms) and which remain undetected by the manufacturers during their "first level checks" of the firmware, to create problems. Critics of the EVM suggest that there is a non-zero possibility of such ways that will result in the deployment of tampered EVMs susceptible to manipulation. These are far-fetched but technically possible scenarios that assume malicious actions by vendors that are deliberately ignored by the manufacturers, "insider fraud" that remains undetected, and coordinated actions by agents who manage to shift vote counts in favour of their party using the manipulation that is possible with the tampered EVMs.

More about the VVPAT

Fortunately, the implementation of the VVPAT as a device has rendered it possible to verify if at all such schemes have happened to subvert the mandate of voters. VVPATs will help find if there is anything malicious that has gone on by comparing machine tallies with the hand-counted tally of the slips.

Currently, the ECI allows for the votes recorded in the VVPAT to be counted in only one randomly chosen polling booth in each assembly segment. Statisticians such as Atanu Biswas of the Indian Statistical Institute, Kolkata, and former bureaucrat K. Ashok Vardhan Shetty have argued that this is not enough. Mr. Shetty has suggested that a more robust count of VVPAT slips would entail the setting of a State-wise number of the booths to be counted, that is ad-

justed for population, voting turnout and other factors. This is a legitimate suggestion that the ECI should pay heed to in order to dispel any lingering doubts about the electoral process.

That being said, the idea that EVMs should be junked because of the possibilities mentioned above and that we should return to paper ballots as the means of voting is not just problematic but is also an ahistorical argument. In a recent paper, researchers such as Shamika Ravi et al have shown that the use of EVMs had led to a significant decline in election fraud such as rigging, booth capturing, ballot stuffing, etc in many States and even resulted in increased voter turnout especially of the vulnerable and poorer sections of the Indian electorate. I had found, in a statistical study for The Hindu in April 2016, that not only had EVMs rendered "invalid votes" to be a complete non-factor but also invalid votes had significantly affected several Assembly elections in the past.

In other words, the EVM has served the purpose which was the reason for its deployment by the ECI in the first place – to assure free and fair elections, and to ease the process of voting. Improvements to the EVM are certainly possible, but a return to paper ballots is an untenable proposition.

In sum, the best possible way of improving upon our electoral process and bringing in greater trust in it is in a continuing and constructive critique of India's EVM through a scrutiny of the election process including technical assessments of the devices used. But there should be no place for an uninformed dismissal of the EVM as a part of the discourse as this will only increase distrust in our democratic process.

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Moving away from 1%

Sluggish health spending can be reversed with a substantial increase in the allocation for health in the Union Budget



Soumitra Ghosh

India's neighbours, in the past two decades, have made great strides on the development front. Sri Lanka, Bangladesh and Bhutan now have better health indicators than India, which has puzzled many. How could these countries make the great escape from the diseases of poverty earlier than their much bigger neighbour? India's health achievements are very modest even in comparison to large and populous countries such as China, Indonesia or Brazil.

Clear trends

Therefore, it is imperative to understand why India is not doing as well as these countries on the health front. Looking at other developed and transitional economies over many years, two important trends can be discerned: as countries become richer, they tend to invest more on health, and the share of health spending that is paid out of the pocket declines. Economists have sought to explain this phenomena as "health financing transition", akin to demographic and epidemiologic transitions. The point to be noted is that

similar to these transitions, the health financing transition is not bound to happen, though it is widespread.

As with the other two transitions, countries differ in terms of timing to start the transition, vary in speed with which they transition through it, and, sometimes, may even experience reversals. Economic, political and technological factors move countries through this health financing transition. Of these, social solidarity for redistribution of resources to the less advantaged is the key element in pushing for public policies that expand pooled funding to provide health care. Out-of-pocket payments push millions of people into poverty and deter the poor from using health services. Pre-paid financing mechanisms, such as general tax revenue or social health insurance (not for profit), collect taxes or premium contributions from people based on their income, but allow them to use health care based on their need and not on the basis of how much they would be expected to pay in to the pooled fund.

Hence, most countries, which includes the developing ones, have adopted either of the above two financing arrangements or a hybrid model to achieve Universal Health Care (UHC) for their respective populations. For example, according to the World Health Organisation's recent estimates, out-of-pocket expenditure contributed



only 20% to total health expenditure in Bhutan in 2015 whereas general government expenditure on health accounted for 72%, which is about 2.6% of its GDP. Similarly, public expenditure represents 2%-4% of GDP among the developing countries with significant UHC coverage, examples being Ghana, Thailand, Sri Lanka, China and South Africa.

Low spending, interventions

Unlike these countries, India has not invested in health sufficiently, though its fiscal capacity to raise general revenues increased substantially from 5% of GDP in 1950-51 to 17% in 2016-17. India's public spending on health continues to hover around 1% of GDP for many decades, accounting for less than 30% of total health expenditure. Besides low public spending, neither the Central nor the State governments have undertaken any significant policy intervention, except the National Health Mission, to redress the issue of widening socioeconomic inequalities in

health. But the NHM, with a budget of less than 0.2% of GDP, is far too less to make a major impact. And worryingly, the budgetary provision for the NHM has decreased by 2% in 2018-19 from the previous year.

Last year, the Union government launched the Pradhan Mantri Jan Arogya Yojana with much fan-fare but only ₹2,000 crore was allocated to this so called 'game-changer' initiative. This assumes importance as the National Health Policy 2017 envisaged raising public spending on health to 2.5% of GDP by 2025. Certain key indicators suggest that public health expenditure has stagnated since the National Democratic Alliance came to power in 2014.

As a percentage of GDP, total government spending (Centre and State) was a mere 0.98% in 2014-15 and 1.02% in 2015-16. Although the revised estimate of government expenditure for 2016-17 and budget estimate for 2017-18 show an apparent increase in allocation (1.17 and 1.28%, respectively), actual expenditure might turn out to be quite less. This could be explained by looking at the difference between the revised allocation and actual expenditure for the years 2014-15 and 2015-16. Actual expenditure dropped by 0.14 and 0.13 percentage points, respectively.

Assuming that the trend did not change in the last couple of years, India's public expenditure on

health would be around 1.1% even in 2017-18. This 'sticky public health spending rate' of 1%, which does not increase despite robust economic growth for years, is partly due to a decline in the Centre's expenditure, which fell from 0.40% of GDP in 2013-14 to 0.30% of GDP in 2016-17 (As per 2018-19 budget allocation, 0.33% of GDP).

Increase allocation

If this sluggish public health spending has to be reversed, there is a need for a substantial increase in the allocation for health in the forthcoming Union Budget. However, the rise in government health spending also depends on health spending by States as they account for more than two-thirds of total spending.

Hence, both the Centre and States must increase their health spending efforts, which would reduce the burden of out of pocket expenditure and improve the health status of the population. Else, the 2019 Budget would also see public health spending sticking at 1% of GDP. This would mean India, would, without doubt, miss the 2025 target, and thereby fail to achieve UHC in a foreseeable future.

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LETTERS TO THE EDITOR

Letters emailed to letters@thehindu.co.in must carry the full postal address and the full name or the name with initials.

The Left today

Given the declining support base of the CPI(M), its general secretary Sitaram Yechury's cautious optimism about the party's likely performance in the coming Lok Sabha elections is quite understandable (OpEd page, 'The Wednesday Interview' - "Sabarimala will have a positive impact on the Lok Sabha elections", January 23). It should be a matter of serious concern to the party leadership that its ideological arch rival, the Bharatiya Janata Party, has edged out the Left even in West Bengal, even increasing its vote share as well. Organisationally, the CPI(M)'s cadre base started declining with the emergence of the Trinamool Congress's Mamata Banerjee as an

undisputed leader of the State. Very little has been done by the Left's ageing and even uninspiring leadership to attract young aspirants to its fold. It does face an existential threat. The least that can be done is to first merge all Left-leaning parties under one umbrella.

S.K. CHOUDHURY,
Bengaluru

The interview only reaffirms the precarious position of the CPI(M) – that it is in 'no man's land' as far as fighting the general election as part of a combined opposition is concerned. There is no way the party can be a part of the Opposition group being promoted by Trinamool Congress chief Mamata Banerjee. Moreover with its depleting influence among

voters, the party has hardly any bargaining power. The political snub to the Congress in Uttar Pradesh, a Communist party in the wilderness and the indifferent response to the Kolkata rally from the leaders of the Biju Janata Dal and the Telangana Rashtra Samiti, respectively, give enough breathing space to the BJP to gather itself together and project itself as the only party that can provide a stable government at the Centre.

V. SUBRAMANIAN,
Chennai

Priyanka in politics

Priyanka Gandhi Vadra's entry in politics and being made the All India Congress Committee general secretary of Uttar Pradesh East, is welcome. It should also spell the beginning of a 50:50

ratio of women and men in Indian political space.

UNNIKRISHNAN MANGALASSERI,
Manjeri, Malappuram, Kerala

Talking about drought

The writer has attempted to press home the issue of water scarcity, but droughts are the product of multiple reasons, key among them being global warming. Climate change has no geographical boundaries. Also, it is not appropriate to try and lay the blame at the government's door (Editorial page, "India stares at water scarcity", January 23).

DEEPAK SINGHAL
Noida

If the ideas enshrined in the article are extrapolated, one gets a glimpse of the problems farmers would face, made worse by the politics in this country. The

Green Revolution has helped the world tackle hunger, but our water usage tripled. It is of utmost exigency that the government changes its attitude towards the farmer as meticulous resource allocation of water should be orchestrated. As the unreliability of rains has been increasing exponentially due to environmental factors, investments should be used to procure future proof technologies like osmotic water plants and drip irrigation. India must take a leaf out of the page from the book of countries that have conducted extensive research and planning of agriculture.

JACOB J. PUTHENVEETIL,
Chennai

One has hardly heard of any political party focussing

South Africa's new Indian migrants

For India-South Africa relations to take shape, we need to move beyond Gandhi and the Indian diaspora



EESHA KUNDURI & PRAGNA RUGUNANAM



"Even as South African Indians grapple with the idea of India as their homeland, their idea of South Africa as 'home' has led to antagonism towards the new Indian migrants." Indian migrant traders in South Africa in 1913. ■ GETTY IMAGES

Walking through the former Indian township of Lenasia (south of Johannesburg) in November 2017, we met a Nigerian migrant listening to a Hindi song. Curiosity led to a brief conversation and he told us that while he could not follow the lyrics of the song, he found the music enthralling. Within minutes of the conversation, we met the friend from whose phone the migrant had copied the song. He told us that he had arrived less than a decade ago from Surat and works at a mobile shop in Lenasia.

The close links between India and South Africa from the perspective of migration is well known. There is vast documentation of historical migrant streams – from the arrival of indentured labourers in Natal in 1860 to the arrival of Indian traders after 1880. Durban, in particular, is known to host one of the largest concentrations of the Indian diaspora. Data from the Ministry of External Affairs (MEA) show the population of Overseas Indians in South Africa in December 2018 to be over 1.5 million: 60,000 Non-Resident Indians and 15,00,000 Persons of Indian Origin.

The invitation to South African President Cyril Ramaphosa as the chief guest for India's Republic Day celebrations this year has put the spotlight on two important pillars of bilateral ties: Mahatma Gandhi's connection to South Africa, and a large Indian diaspora. President Ramaphosa's visit assumes significance as India celebrates the 150th birth anniversary of Gandhi. In June last year, External Affairs Minister Sushma Swaraj's visit to South Africa honoured 25 years of diplomatic relations between the two countries, the 100th birth anniversary of Nelson Mandela, and 125 years of the Pietermaritzburg train incident.

Drivers of business

Little, however, is known about the new migrants to South Africa's shores, like the Gujarati migrant we

met in Lenasia. Why is the figure of the contemporary Indian migrant critical to consider, and should it be differentiated from an older diasporic Indian population in South Africa?

Post its democratic transition, South Africa witnessed an influx of migrants from developing countries such as Mozambique, Nigeria, Zimbabwe, Pakistan, the Democratic Republic of Congo, India, and Lesotho, who came to the country in the hope of social and economic success. These migration streams are reflective of wider shifts in global migration trends, of South-South migration emerging rapidly as a viable alternative in comparison to the costs of migrating to the Global North, or as an intermediate stop in further pursuit of migration to the Global North.

Indian migrants are driven to South Africa because of cultural relatedness and the presence of networks from the home country. In the Gauteng province, for instance, Indian migrants first arrive in areas with existing Indian concentrations, such as Fordsburg, Lenasia, and Laudium. Fordsburg is well known as one of the most vibrant places in Johannesburg, for its iconic Oriental Plaza and variety of street foods, ha-lal shops and Indian sweetmeats. New Indian migrants have set up businesses here alongside Pakistanis, Bangladeshis, and Egyptians. It is not uncommon to see Malawis assisting as cooks in *dhabas* (eateries) run by

Indian and Pakistani migrants. The migrants have been critical drivers of businesses and employment generation in these and various other neighbourhoods.

Raman (name changed), who hails from Mumbai, and runs a telecommunications business in South Africa, remarks about setting shop in Fordsburg: "I moved from India to Dubai for two years. When I was doing business in Dubai, most of my clients were based in South Africa. So then I said, fine, there is some potential in the country, and because people are buying so much from us, from Dubai, if I move to South Africa, it will be good exposure for me and for them to interact with me on a day-to-day basis... I have a more intimate relationship with them."

On the one hand, the influx of migrant groups has resulted in the exchange of ideas, goods and cultures at a micro neighbourhood/street level. The African migrant who listens to Bollywood songs in Lenasia symbolises this. On the other hand, not all is pleasant among the new Indian migrants and the South Africans of Indian origin. Even as South African Indians grapple with the idea of India as their homeland, their idea of South Africa as 'home' has given rise to antagonism towards the new Indian migrants. Furthermore, Indian migrant traders, alongside Chinese traders, have been at the receiving end of xenophobic attacks and violence. China Malls, the Oriental Plaza

and other trading spaces have witnessed violent burglaries and break-ins. Much of this is driven by hatred stemming from the perception that migrants are taking away the jobs of local South Africans.

The real story, however, is that migrants have made positive contributions to South Africa's economy and society. In fact, cities like Johannesburg are driven by migrants. Yet, this receives little attention in mainstream policy discourse or in bilateral/multilateral relationships.

For robust relations

Recent developments signal some change. Speaking along the sidelines of the African Union Summit in Kigali, Rwanda, in March 2018, President Ramaphosa "urged South Africans to welcome and embrace foreign nationals from the [African] continent," arguing that movement of people allows for new opportunities for business and learning. More recently, at the informal meeting of BRICS (Brazil, Russia, India, China, South Africa) leaders in Buenos Aires, Prime Minister Narendra Modi spoke of the need for "smooth movement of labourers worldwide" in the context of managing labour relations in global value chains.

For India-South Africa relations to truly take shape in contemporary times, it is no longer enough to glorify the Indian diaspora or commemorate Gandhi's role in South Africa, which have been the two key highlights of top-level foreign visits and meetings thus far. Contemporary India and South Africa need to recognise and harness the potential of new migratory flows. Only then can we realise our true strength as allies in BRICS or IBSA (India, Brazil, South Africa). The emphasis on skill development, South-South cooperation, and people-to-people contact, significant as it is, cannot be delinked from cross-border flows of people, who are rapidly transforming the employment and migration landscape in both countries. At the same time, free labour mobility on its own is not enough; we need measures to safeguard and uphold labour standards globally.

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The hard power imperative

India needs to urgently modernise the armed forces



MANMOHAN BAHADUR

In a new programme called 'Insect Allies', launched by the Defence Advanced Research Projects Agency (DARPA), which is responsible for developing military technologies in the U.S., researchers have been asked to evolve insects that introduce genetically modified viruses into crops. This is being done ostensibly to address infections. One is yet to come across a more ingenious explanation for a lethal weapon system being developed. Imagine these insects being let loose in fields with their genes deviously modified? Is this agricultural warfare? The journal, *Science*, acknowledges that the programme "may be widely perceived as an effort to develop biological agents for hostile purposes". The DARPA has denied that this is its intention, but history has proven that noble human intentions have been overpowered by the lure of obtaining a technological advantage to enhance power.

Developing hard power

No country calling itself a power can afford to lag behind its adversaries in the technology innovation cycle. China realised this early, and its advancements in weapons technology has been impressive. With research and development (R&D) allocation growing from \$13.4 billion in 1991 to \$377 billion in 2015 (20% of the world's R&D budget), China moved from an era of reverse engineering to creative adaptations and now to disruptive innovations, as seen in its J-20 stealth fighter and the hypersonic wave rider vehicle programmes. On mastering the latter, China would be able to strike any target in the world within an hour of the decision being taken. With such technological breakthroughs, and as part of its influence operations, it is no surprise that China is changing rules that govern geopolitical relations. Accordingly, it has moved from Deng Xiaoping's philosophy – 'hide your strength and bide your time' – to Xi Jinping's propagation of aggressive aggrandisement.

However, the narrative in Delhi is stuck on the mundane issues of third- and fourth-generation fighter programmes of Tejas and Rafale. India seems to hope for an environment sans war. Soft power processes such as the Wuhan summit and the waiver for India under CAATSA (Countering America's Adversaries Through Sanctions Act) are important but they are not substitutes for the hard power necessary to buttress nation-building. Chi-

na and the U.S. may be adversaries, but economic reasons will not let their rhetoric and mutual trade wars cross the rubicon. Cold calculations of national interest drive their decision-making, and collateral damage by way of broken promises and overlooked pledges of friendships with less powerful nations, India included, are plausible. Promises of friendships between unequals do not withstand the lure of economic give and take of the powerful engaged in a geo-economic tussle; it is a truism that while capability takes time to build, intentions can change overnight. It is time that India stands on its own with its indigenous hard power.

Needed: An adequate budget and time

Hard power grows only if there is an adequate budget, and if time is given for acquiring intellectual property in the military. According to the World Bank, India's total investment in R&D has stayed static at 0.63% of the GDP for a 20-year period! More worrying is that three-fifth of this is in sectors other than defence. In the same period, China's R&D investment has gone up from 0.56% to 2.07% of its GDP. Reports state that the Indian Air Force has delayed payment to HAL and that the Defence Ministry has not paid military contractors. The scene thus appears grim vis-à-vis monies available for strengthening the war-waging potential of the services. Due to several false starts in arms acquisitions, 'India fatigue' pervades the defence manufacturing sector. The poor participation of major weapon manufacturers with their top-line products at the last two Aero India and DefExpo exhibitions is proof of this.

Military power does not come with purchase of sniper rifles, the emergency acquisition of which caused euphoria in some circles recently. It is also a given that not one election cycle but decades are needed to build military power, which is the life span of at least three governments. The rise of Japan's military in the early 19th century, Germany's military between 1920 and 1940, and China's military between 1980 and 2005 attest to decades-long commitment of focussed political and scientific attention and assured availability of adequate monies. With the strengthening of China-Pakistan relations, and the modernisation of their militaries, it is vital that India's 2019-20 Budget (as also the interim vote on account) addresses the need to urgently modernise the armed forces. Developing intellectual property through indigenous R&D is key to this endeavour. What India's polity needs is some serious bipartisan introspection and discussion, which will be in national interest.

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SINGLE FILE

China's compromise

A new draft Bill seeks to address some of the West's concerns on forced technology transfers

GARIMELLA SUBRAMANIAM



The 'Made in China 2025' industrial policy aims to transform China from a low-wage copycat manufacturing economy to a high-value generator. But Beijing's aspiration for global dominance in sectors including aerospace and aviation, robotics and artificial intelligence, 5G communications and self-driven cars has been dubbed a threat to the world order.

There have been concerns for a while now that Chinese joint ventures, in violation of World Trade Organisation rules, coerce investors to share proprietary intellectual property (IP) in return for access to lucrative domestic markets. For instance, a 2017 law required foreign automobile manufacturers to disclose sensitive technology regarding new energy vehicles, causing an uproar among investors. Authorities quickly backed down from such preconditions.

U.S. Trade Representative Robert Lighthizer's 2017 probe targeted precisely those sectors of Beijing's 2025 policy that it believed would impact national security. The investigation was triggered under the infamous Section 301 of the 1974 Trade Act, which authorises unilateral retaliation against the unfair trade practices of other nations. As a consequence, the total amount of tariffs, effective and proposed, against China stood at \$517 billion in 2018. These are in addition to the punitive levies slapped in early 2018 against global steel and aluminium imports. In coordinated actions, the U.S. Justice and Commerce Departments have pursued Chinese state-owned firms and intelligence agents for economic espionage in the aerospace, aircraft engine and semiconductor technology arenas. Fujian Jinhua is at the centre of criminal litigation for alleged theft of trade secrets worth billions of dollars from U.S. firms. The company is the high-tech parallel to the Chinese telecom giant Huawei, which Washington and its allies have barred from bidding for 5G network contracts, seeing it as a national security threat.

The row over the loss of new energy vehicles technology by automobile firms, in return for access to the Chinese markets, is one of many areas where the EU and the U.S. found common cause. Along with Japan, they came together that year to counter the structural factors they believe fuel Beijing's forced IP transfers and other market distortions. But such joint efforts are unlikely to fructify, as the U.S. prefers unilateralism in pursuit of its 'America First' agenda. The flip side of disregarding multilateral rules is resorting to arbitrary action to serve political ends. The Section 301 tariffs, for example, are said to have been applied to ancillary industries in the supply chain. Similarly, import exemptions on Chinese goods have been allowed where Beijing is the sole supplier and denied if there are other exporters.

The U.S. and China will have to find greater common ground for the smooth flow of two-way trade. China's new Bill promising to end forced technology transfers will hopefully be a step in this direction.

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FAQ

Sedition and its discontents

The scope and limits of an old provision that many want repealed or amended

K. VENKATARAMANAN

What does Section 124-A of the IPC say?

The section deals with the offence of sedition, a term that covers speech or writing, or any form of visible representation, which brings the government into hatred or contempt, or excites disaffection towards the government, or attempts to do so. It is punishable with three years in prison or a life term. "Disaffection", it says, includes disloyalty and feelings of enmity. However, it also says expressing disapproval of government measures or actions, with a view to getting them changed by lawful means, without promoting hatred or disaffection or contempt towards the government will not come under this section.

What is its origin?

Sedition was introduced in the penal code in 1870, a

decade after the Indian Penal Code came into force. It was a colonial law directed against strong criticism of the British administration. Its most famous victims included Bal Gangadhar Tilak and Mahatma Gandhi. Gandhi called it "the prince among the political sections of the IPC designed to suppress the liberty of the citizen".

Is it constitutionally valid?

Two high courts had found it unconstitutional after independence, as it violated the freedom of speech and expression. The Constitution was amended to include 'public order' as one of the 'reasonable restrictions' on which free speech could be abridged by law. Thereafter, the Supreme Court, in *Kedar Nath Singh v. State of Bihar* (1962) upheld its validity. At the same time, it limited its application to acts that involve "intention or tenden-

cy to create disorder" or incitement to violence. Thus, even strongly worded remarks, as long as they do not excite disloyalty and enmity, or incite violence, are not an offence under this section.

Why the controversy now?

In recent times, the resort to this section is seen as disturbingly frequent. Activists, cartoonists and intellectuals have been arrested under this section, drawing criticism from liberals that it is being used to suppress dissent and silence critics. Authorities and the police who invoke this section defend the measure as a necessary step to prevent public disorder and anti-national activities. Jawaharlal Nehru University students and activists, Assamese scholar Hiren Gohain and Manipur journalist Kishorchandra Wangkhem are prominent among those booked in re-

cent days. Wangkhem has also been detained under the National Security Act.

What is being done about it?

Liberals and rights activists have been demanding the scrapping of Section 124A from the statute books, arguing that it has no place in a democracy and that it is being invoked even in cases where there is no incitement to violence or tendency to create public disorder. It is argued that the provision is "overbroad", i.e., it defines the offence in wide terms threatening the liberty of citizens. The Law Commission released a consultation paper last year calling for a reconsideration of the section. It has pointed out that Britain abolished it more than a decade ago and raised the question whether a provision introduced by the British to put down the freedom struggle should continue to be law in India.

FROM The Hindu. ARCHIVES

FIFTY YEARS AGO JANUARY 24, 1969

Platform tickets for cars

Motor vehicles driving into the Egmore railway station will soon have to buy platform tickets. The Southern Railway proposes to charge 50 paise for cars, taxis and autorickshaws, and Rs. 5 for buses. This is apart from the platform tickets that the occupants of the vehicles have to purchase, if they do not hold journey tickets. SRVS lorries and vehicles belonging to newspaper concerns and Government (both Central and State) will, however, be exempted from the levy. A Railway official said Howrah was the only other station in the country where the facility of driving into platforms was available, one Rupee being charged. Besides fetching some income, the new levy will relieve, to some extent, traffic congestion on the platforms, which had increased enormously in recent years. A drive-in counter has been put up to enable the motorists to get their tickets without having to stir from their seats.

A HUNDRED YEARS AGO JANUARY 24, 1919

Ongole Cattle.

In his observations on the report of the Ongole Cattle Show Association, Mr. G.A.D. Stuart, the Director of Agriculture, disbelieves the view that has of late been widely held that the export of Ongole cattle abroad has resulted in the serious depletion of the breed. "There were no signs of any deterioration in the breed," comments Mr. Stuart on the President's report. "As he there states," he continues, "the quality of the exhibits compared favourably with the previous shows, this being especially the case among the young bulls; so that extra prizes were given." "This fact," he jubilantly exclaims, "points to the falsity of the 'strong popular belief' in deterioration which the President mentions." Far from showing the falsity of the popular belief, the President's statement may be shown to emphasise the belief.

CONCEPTUAL Circadian rhythm

BIOLOGY

This refers to the 24-hour cycle that influences the various physiological processes that take place within the human body. Among others, the circadian rhythm most commonly determines the hours that a human being is asleep or awake during a day. Other important things like the metabolic rate, body temperature, blood pressure, and the secretion of various hormones are also influenced by the circadian rhythm. It is believed that disturbances to the circadian rhythm, which is seen by some scientists as an adaptation to conditions prevalent on earth over a long period of time, due to changes in a person's lifestyle, for instance, can lead to adverse effects on the human body.

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