

IN@SIGHTS

 SYNERGIA FOUNDATION

AUGUST 2021 | EDITION I | THEMATIC | FORTNIGHTLY



DIGITAL ENTRAPMENT



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AR. NO. 01

DIGITAL ENTRAPMENT

Armed with treasure-troves of data that can be used to further a totalitarian regime, Taliban 2.0 has a new weapon at its disposal.



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After making rapid territorial gains over the past few weeks, the Taliban has finally stormed its way to victory in Afghanistan. With the gun-toting militants patrolling the streets of Kabul, fears abound about the physical safety of people, especially that of women and children. There is, however, a secondary (albeit important) concern that keeps the Afghans awake at night - the security of their online personal data.

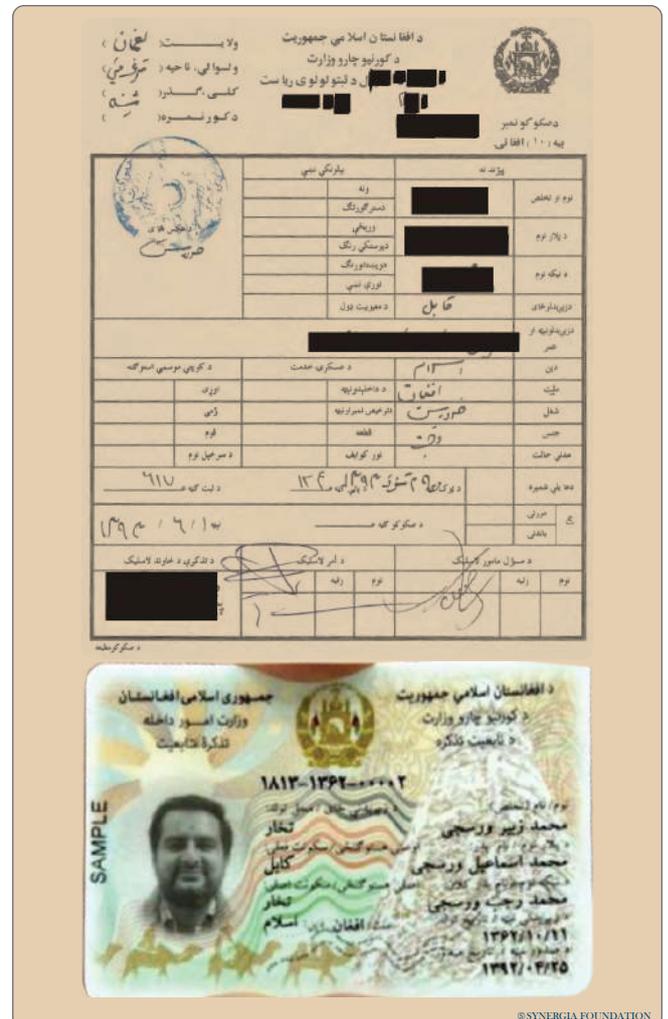
As the Taliban seeks to consolidate its power in the war-torn region, digital breadcrumbs scattered throughout the virtual world, can potentially help the militants to hunt down Afghan collaborators who had worked with the fallen government, the U.S. military and other foreign organisations. Against this backdrop, thousands of civilians are scrambling to erase any digital evidence that links them to these entities.

However, while it may be relatively easy to burn and destroy physical documents, the erasure of digital footprints is a completely different ball game. Even if it is possible to delete the information that is locally stored on devices (such as messages, photos and contact history), the Taliban can still exploit biometric databases which were previously controlled by the Afghan government.

DATA REPOSITORIES

Before its tragic collapse at the hands of the Taliban, the Afghanistan government had maintained a national

database of citizens, using the information collated from identification cards called the ‘Tazkira’. Serving as a confirmation of Afghan citizenship, these cards had been issued to people under the ‘2014 Law on Registration of Population Records’, for securing access to a range of public services. They were also mandatory for registering property ownership, securing bank loans, exercising voting rights and obtaining other identification documents like passports



and driving licenses. In 2018, the Ashraf Ghani government had launched a digitised version of this Tazkira, with the active support of international organisations like the United States Agency for International Development (USAID), International Organisation for Migration (IOM) and the European Union. Known as the e-Tazkira, this identity card had been embedded with an electronic chip that contained biometric data such as fingerprints, iris scans and blood-groups. While issuing the e-Tazkira, President Ghani had cited national security concerns to justify the digitisation of data. According to him, it was critical to establish a reliable identity verification process that prevented the use of counterfeit IDs. Ironically, however, the same digital tool now threatens to undermine human security by serving as a surveillance mechanism in the hands of the Taliban, after its momentous takeover of the country.

A SURVEILLANCE TOOL

“Given that the e-Tazkira contains sensitive information about religion, ethnicity, age, gender, place of origin and profession, it can be veritably exploited to target and attack vulnerable groups.”

Apart from religious/ethnic minorities, women and children are at a particular disadvantage, as their data can be abused by human trafficking networks with links to the militants. The Taliban can also use the voting history of civilians to establish their sympathy for the government and orchestrate reprisals against them. In fact, the group has a history of harnessing data piles to ‘filter out’ those who are deemed to be a threat to its radical Islamist regime. Before the fall of Kabul, it was known to routinely intercept buses and other vehicles to scan the fingerprints of passengers and cross-check them against a database of government officials. Owing to the existence of online biometric databases, it was relatively difficult to obfuscate the identity of people.

Moreover, the militants were infamous for perusing social media accounts like Facebook to identify individuals who had collaborated with the U.S. military and international non-governmental organisations. Even data that was prima facie innocuous could be woven together with other data to reveal damaging information about people. Now that the militants have taken over the Afghan capital, it is only a matter of time before they secure access to official biometric data. They may even exert pressure on telecom companies in the country to part with the call history of individual citizens, to establish their nexus with government forces and foreign militaries.

In fact, reports have already emerged about the Taliban conducting door-to-door searches, armed with a biometric machine. They also appear to be deploying them at manned checkpoints to verify the identity of individuals. This biometric tracking technology, which is currently being used by the radical group, is believed to have been captured from the U.S. military last week. Known as the Handheld Interagency Identity Detection Equipment (HIID), such

devices had been originally designed to identify Afghan nationals who worked for the American government and aided coalition forces. The same information can now be weaponised by the Taliban to track down individual collaborators. According to certain experts, the militants may even take the aid of intelligence agencies in Pakistan and China to process such large volumes of data.

As it is, China’s telecom companies are accused of using facial recognition, predictive policing and other tools to conduct digital surveillance. If they decide to assist the Taliban with similar technologies, in order to protect Beijing’s strategic interests in the region, the results would be disastrous for Afghan citizens.



Assessment

As a matter of immediate priority, foreign militaries and aid agencies in Afghanistan need to expunge information that can be used to target people. Apart from classifying which parties have control over the data of agency staff as well as grantees, it is important to turn off systems that allow access without oversight. This will ensure that unauthorised actors do not secure access to existing data repositories. Moreover, social media accounts and websites need to be purged of photos and other personally identifiable information, which puts Afghan civilians in a vulnerable position.

Telecom operators like MTN, Roshan, Etisalat, Afghan Wireless, and Salaam should push back against internet shutdown requests (if any) and transfer of call records to the Taliban. They should also keep digital communication pathways open and accessible, while ensuring that the lines are secure through strong encryption.

Data security is indubitably intertwined with human security. The Afghanistan crisis should serve as a grim reminder for all governments, including India, to establish a ‘disaster protocol’ that protects the sensitive data of citizens, in the event of conflicts, violent regime-changes or other unforeseeable events.

AR. NO. 02

ANOTHER ONE BITES THE DUST

As we watch the heart-wrenching tragedy unfold in Afghanistan, larger concerns grow for regional stability.



Major General Ajay Sah SM, VSM (Retired) is the Chief Information Officer at Synergia Foundation.

Grainy smartphone images of triumphant Taliban fighters strutting through the Presidential Palace in Kabul bring back memories of the American evacuation of Saigon nearly 46 years back. The Afghans tumbling from the sky, as they desperately try to flee Kabul, are reminiscent of the Vietnamese clinging to the skids of departing helicopters from the diminutive helipad atop the Embassy roof.

However, there is one significant difference - Saigon was a distant drama, but not so in Kabul. These events will have their resonance in the region, especially in India.

A PLOT PLAYED TO PERFECTION

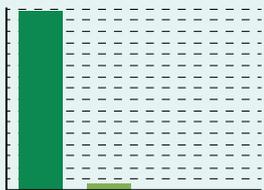
No one with an iota of strategic sense expected Ashraf Ghani (now fleeing into exile with carloads of currency) to survive long after the American departure. In fact, President Trump had put the last tragic act of America’s Afghan adventure into motion by sealing an agreement with the Taliban. His successor affixed 31 Aug 21 as the final milestone for the American departure and had the misfortune to preside over the humiliation of the culminating moments. In his defence, President Biden had publicly advised President Ashraf Ghani to mend fences with the Taliban through a power-sharing deal before the last of the western troops exited. The entire political leadership of Afghanistan vehemently refused to make any concessions and protested any large-scale evacuation of local collaborators of the NATO forces. Now critics blame them for utilising the

crucial last few weeks for feathering their own nests rather than shoring up resistance against the Taliban tide through a well-coordinated and well-led strategy. Amidst all this, the Pakistanis can barely conceal their glee in what they feel has been the second humiliating defeat of a superpower which they can justifiably claim to have orchestrated. Furthermore, they were able to compel the Taliban to withhold their final assault until the western forces had exited, thus avoiding any short-circuiting of the 31st August deadline. Only once the withdrawal had reached an unreversible critical mass (with the evacuation of major airbases like Bagram) did the Taliban hordes waiting on the wings, mounted their motorcycles and Toyota trucks to surround, infiltrate and occupy, mostly without firing a shot, the provincial capitals in rapid succession.

A STRATEGY DOOMED TO FAIL

The awesome firepower of the Americans, supported by their minor NATO allies, wreaked havoc on the Taliban guerrilla bands seeking control of strategic districts every

AFGHANISTAN

<p>1 Population 32,006,000</p> 	<p>3 Capital City Kabul</p>
<p>2 Main Religion Islam</p> 	<p>4 Currency Afghan Afghani (AFN)</p>
	<p>5 Language Dari and Pashto</p>
	<p>6 Landmark Jam Minaret Kabul Old City Khyber Pass</p>

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Spring when they launched their annual summer offensives. As the summers drew to a close, the remnants withdrew to their sanctuaries across the ill-defined Durand Line. Here they were resurrected, treated for the wounds and pains, re-armed and, with a fresh dose of religious indoctrination, pushed back the next summer. And so, the cycle went on year after year, without diminishing as the sanctuaries remained untouched, and the geopolitical cost of such an enterprise was never imposed on Pakistan by a meek international community. This made the Pakistanis bolder and the Taliban more patient as they knew the resilience of the western powers to sustain this kind of debilitating warfare had its bounds. Recent events have proved both Pakistan and its protégé correct. What has been most surprising is the quick and total collapse of the Afghan security forces. Questions are now being raised about the sagacity of spending nearly \$ 88 billion over the last two decades on the raising of an entirely new Afghan National Army (ANA) and Afghan National Police. Some media reports have put the ratio as high as 2/3 of the entire foreign aid to the country since 2002 (Politico Magazine 13 Aug 21). As per figures reluctantly released by the Pentagon recently, the Afghan security forces grew from just under 6000 and zero national police in 2003 to an impressive figure of 1,82,000 and 1,18,000 respectively in 2021. This impressive figure of almost 3,00,000 was nothing but a paper tiger and had been artificially propped up by the immense weight of American firepower. Of course, the well-equipped and well-trained Afghan special units (KKA) proved their mettle, but they were overused and with poor backup. The follow-up troops - regular, police and irregulars (private militias of local warlords financed generously by the Americans)- were useless and allowed the initial gains to evaporate. This was even more tragically on display during the last ten days of the desperate struggle when these special forces were rushed by the remaining helicopters from one collapsing front to another, with no sign of logistical or fire support. Surviving on rotten potatoes and roots, the last of the special forces withdrew into neighbouring countries or surrendered. It is unlikely that the Taliban will show any mercy to them. As regards air support, the US. did raise an air force equipped with propeller-driven counter-insurgency aircraft like the Brazilian Super Tucano and helicopters, with India making its own token contribution with a few Russian made attack helicopters. The Achilles heel of this force was the technical support that was entrusted to civilian contractors paid for by Pentagon. Not surprisingly, all technicians were the first to depart once the American exodus began, leaving the air force floundering on the ground. Cut off from supplies and devoid of air support or aerial resupply, entire units crumbled, allowing advanced elements of the Taliban to occupy provincial capitals without firing a shot in most cases. Here again, the historical Afghan way of warfighting was in the display as, in most probability, huge sums of money would have exchanged hands to make local warlords change sides overnight.

“The Americans erred in their basic concept of creating the ANA in their own image. The ‘Hammer and Anvil’ strategy, adopted

by most conventional armies, can destroy a rigid conventional force, not a medieval, flexible, sinuous guerrilla band adept in this type of warfare over centuries.”

The ANA did not have the heart in the fight; it was clear right from the beginning. We at Synergia had given three to six months to the Ghani regime to last; we were wrong. The Taliban finished the final act in a mere ten days.

SHOULD INDIA WORRY?

Many security analysts are portending a marked upsurge in the proxy war in Kashmir as was witnessed in the late 1980s and early 1990s when there was an influx of Afghan fighters or Pakistani veterans of the Afghan war into Jammu and Kashmir. However, a lot of water has flowed down the Jhelum since then, and the Indian security grid is a far cry from those early days of confusion. The Anti infiltration Obstacle System (AIOS) all along the LOC has grown to perfection. The Rashtriya Rifles has grown and matured into a unique force with few parallels in the world. With over 50 battalions enmeshed into a comprehensive counter-insurgency grid under four divisional sized Force Headquarters, it professionally secures the hinterland on either side of the Pir Panjal ranges. The regular Army is thus left unfettered to deal with the conventional threat and infiltration along the LoC. Most importantly, there is an excellent synergy between the forward defended zone and the hinterland, where the police have been increasingly gaining confidence and operational efficacy in urban areas. The police bring to the table all the intelligence and snooping wherewithal which legally it is empowered to use for law enforcement purposes. The Afghan fighters, with their roughshod, brutal ways and scant respect for the female gender, were never really welcomed by the common people in Kashmir. The status of women in Kashmiri society, even in remote rural areas, is high, and the diktats of roving bands of Afghan fighters generated fear, distrust, and resentment. This paid rich dividends to the security forces to garner real-time operational intelligence.

Therefore, even if the new breed of Taliban reappears in the Vale of Kashmir, their welcome will not be as warm as being predicted by some. Of course, the Indian security forces would be geared up and keenly waiting to give them an appropriate reception. India must invest in cultivating contacts within the Taliban leadership. Historically there is a large groundswell of goodwill for Indians amidst the Afghans; look at thousands of Indians who flourished in Afghanistan for centuries. Even amongst the Taliban leadership, there are few graduates from Indian military academies and universities with age-old family ties with India. These must be searched out, approached tactfully, and nurtured for the future. Indian aim should be to mitigate the adverse impact of the traditionally strong influence that Pakistan exerts on the Taliban and try to exploit whatever space we can use to our advantage. The Chinese have shown the way when they were the first to declare that they are ready for ‘friendly relations’ with the new regime.

AR. NO. 03

A SHATTERED SHIELD?

Breakthrough infections threaten to overwhelm modern COVID-19 vaccines, spurring fears of a prolonged pandemic.



Dr. Gifty Immanuel, MD, PhD, Director, Medical Services, Synergia Foundation

As vaccination campaigns in the developed world inch towards the mythical ‘herd immunity’ milestone, reports have emerged about an increasing number of breakthrough infections among fully inoculated citizens. The highly transmissible Delta variant has been leading the assault against the protective shield of modern vaccines, prompting countries to fall back into the tried and tested regime of ‘masking’ and ‘social distancing’.

Against this backdrop, it is critical to break down available data and devise impactful interventions, grounded in evidence-based research.

AN ADAPTIVE VIRUS

Currently, breakthrough infections are defined as cases where people turn SARS-Cov2-positive, more than 14 days after receiving the recommended doses of COVID-19 vaccines. The number of such cases have exponentially increased, even in countries like Vietnam and South Korea, which had earlier been hailed for having successfully defeated the virus. For lesser prepared countries, it is a veritable disaster waiting to happen, as India has learnt at a high cost between April and June, 2021.

The U.S., despite its extensive ongoing vaccination programme, has witnessed some significant outbreaks in the recent past. For example, a COVID-19 cluster in Provincetown, Massachusetts has revealed that around 74% of those infected were fully vaccinated people. Similarly, a study by ‘Public Health England’ indicates that around 12.5

per cent of the infections in the UK between February and July 2021 were among inoculated persons.

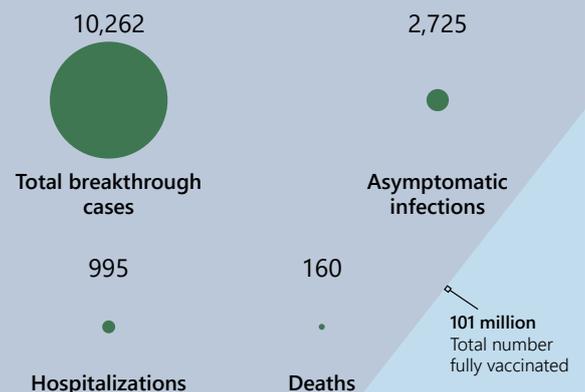
This trend has been discernible in India as well, with a significant number of breakthrough infections being reported among healthcare workers in Delhi. Even small districts like Pathanamthitta in Kerala have reported over 20,000 COVID-19 cases in vaccinated people. While the concept of ‘breakthrough infections’ may have gained prominence after the current pandemic, it is important to recognise that this is not a new phenomenon. Such cases have been recorded in relation to a series of diseases in the past, including chicken pox, hepatitis-b, mumps and influenza.

LOOMING CHALLENGES

Despite a progressively increasing number of COVID-19 infections, breakthrough cases continue to be rare. A study by the Kaiser Family Foundation places the rate of breakthrough cases among those fully vaccinated at below 1 per cent in the U.S. However, there are growing concerns

BREAKTHROUGH COVID-19 CASES REMAIN RARE IN THE U.S.

Number of breakthrough Covid-19 cases reported in the U.S. as of April 30, 2021*



Source: Centers for Disease Control and Prevention

that the dominance of the Delta variant may render the occurrence of such cases more frequent.

For example, a report by The Indian Council of Medical Research (ICMR) indicates that in a vast majority of breakthrough cases, the patient was infected with the Delta variant of SARS-CoV-2. This is hardly surprising as the delta virus is 1200 times more concentrated in nasal mucosa, completely changing the transmission dynamics. Moreover, the viral load in inoculated persons is often comparable to that of unvaccinated people. This is also true for the Delta Variant Plus, which is an additional mutation of the virus.

Generally, people infected with the COVID-19 virus may suffer from prolonged symptoms, anywhere between three months to one year. In the case of breakthrough infections, however, there is insufficient data to examine the pattern of 'long COVID'. After all, the natural history of the disease is less than two years.

However, a new study from Israel, which examines vaccinated healthcare workers from the Sheba Medical Centre seems to suggest that inoculated people can indeed be at risk from long COVID symptoms. It remains to be seen whether this is substantiated by additional data in the future.

SHORING THE WALLS

At present, the existing COVID vaccines appear to be effective in preventing deaths and serious hospitalisation, including the reliance on intubation, ventilators or life supporting systems. Cytokemia and the use of monoclonals can also be avoided. However, the virological and immunological endpoints, which were expected of the vaccines, have not been attained. The original aim of the vaccine was to prevent a secondary transmission of the virus. This has not been achieved so far, partly because the Delta variant continues to replicate rapidly and copiously.

It must be remembered that these vaccines function at their optimum best against the original 'Wuhan' strain. If the virus mutates and gets smarter with new variants, the production of vaccine-driven antibodies may not be sufficient to address such threats. In fact, a study by Public Health England indicates that two doses of the mRNA vaccines are only 79 per cent effective in preventing symptomatic disease with Delta. At the same time, they are 89% effective in protecting against the earlier Alpha variant.

However, even these figures may vary from person to person, depending on age and underlying health conditions. The efficacy of vaccines can be lower in persons who are immunocompromised. This includes patients with co-morbidities like high blood pressure, lung diseases, heart problems, diabetes, chronic kidney, and cancer as also those above 65 years. The same is also true for senior citizens who are 65 years and older, as they may display a less robust immune response to vaccines. In this context, frequent dosing or multiple booster shots are recommended for the immunocompromised.

“ The only problem, however, is that the

correlates of protection have not been established for COVID-19 vaccines.”

Since no single vaccine has shown specific efficacy against newer strains of the COVID-19 virus, experts are looking at 'cocktailing' vaccines. A recent guideline from the ICMR recommends Covaxin shots to be bolstered by a Covishield dose. This can be taken a step further by combining intramuscular and intranasal vaccinations. There also suggestions that the measles vaccine can be added to the mix, especially for children. A study by the BJ Medical College in Pune has demonstrated that kids inoculated with the measles vaccine display milder symptoms upon contracting the novel coronavirus, as opposed to those who are not vaccinated. When the infectious variants are particularly severe, therefore, the cocktailing of vaccines may function as an additional layer of protection.

COVID-APPROPRIATE BEHAVIOUR

Breakthrough infections are more likely when people gather in closed spaces, indoor venues, poorly ventilated rooms, crowded offices, hospital settings and other places with high risks of the contagion. Given this reality, countries like the United States have revised their masking guidelines for vaccinated people. In some cases, experts have even recommended that the masks be worn indoors, in places with high levels of coronavirus transmission. For the immunocompromised and the elderly, Dr. William Schaffner - an infectious disease expert at Vanderbilt University, has advised a 'belt-and-suspenders' approach (Associated Press News, 23 July 2021). This means that they are expected to undertake all necessary precautions, even after inoculation.

Unless the nature and trajectory of breakthrough infections can be conclusively established, it is advisable to err on the side of caution. Public officials must diligently enforce proactive countermeasures, ranging from masking to social distancing. COVID-appropriate behaviour and precautionary measures continue to be important after full vaccination, even though breakthrough infections are rare.

Assessment

Respiratory protection is essential, as the coronavirus is a respiratory pathogen. Apart from N95 masks, N99 masks are now commercially available in the market. This can provide robust protection for both vaccinated and unvaccinated people. However, masks should never be the first layer of protection in places with high risks of contagion. Face shields can constitute an additional safeguard by diverting COVID-19 aerosols.

As the virus can survive in the environment for a long time, the possibility of surface-based transmission should not be ruled out. Gloves, properly worn and handled, can afford a degree of protection. The virus could be also lurking in the anterooms or scrub rooms of hospitals where off-duty healthcare workers remove their Personal Protective Equipment. To reduce chances of infection, it would be prudent for them to keep on their masks on all the time.

AR. NO. 04

DIGITAL DOUBLE-EDGED SWORD

The cloud's promise for equity, inclusion and prosperity is matched by the dangers of its misuse.



Samuel Barnett, Vishnu Kannan, and Monica Pellerano are researchers with the Cyber Policy Initiative at the Carnegie Endowment for International Peace, focusing on cloud governance.

The cloud is emerging as one of the most ubiquitous and versatile technologies of our time, forming the digital backbone for an ever-growing array of commercial, governmental, and personal functions.

Embedded in nearly every aspect of our lives—from smartphones and smart cities to infrastructure and international business—the cloud will have seismic impacts on the trajectories of societies and economies for decades to come.

The rapid growth of the cloud, however, has meant that governments and providers have been slow to come to grips with the full range of governance issues upon which the cloud touches.

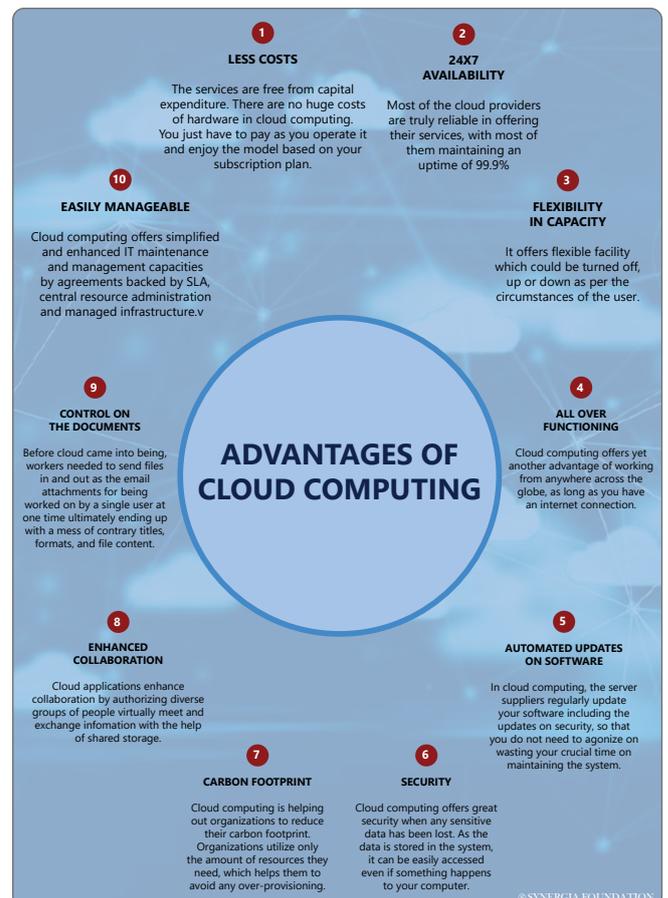
Our research on the governance of the cloud has found that these stakeholders have focused overwhelmingly on asserting jurisdiction over the cloud and ensuring its security—especially as it relates to critical infrastructure and government functioning. They have paid far less attention to the cloud's bearing on equity and inclusion and its ability to serve as both a technological equaliser and a vehicle for repression and exploitation.

It is incumbent upon governments, providers, customers, and other cloud stakeholders to manage this double-edged sword—ensuring that the cloud fulfils its promise as an accelerator of digital transformation and inclusiveness and

avoids the pitfalls of exclusion.

BOON OR BANE?

The cloud's affordability, ease of use, and geographic flexibility give it enormous potential to enhance equitable growth and inclusion in the ongoing digital transformation. By decreasing costs of service, lowering digital barriers to entry, outsourcing IT security and management, and enabling remote access to computing power, it offers a direct and cost-effective bridge to greater innovation, commercial dynamism, economic growth, and labour market efficiency.



These benefits are attainable not just for high-income cities and countries but also for societies across world regions, levels of urbanisation, and stages of economic development.

Moreover, since governments are major purchasers of cloud services, the cloud can improve the extension and delivery of public services, including social safety nets, public education, community health, and more. Through the use of the cloud, these programs may become more accessible, equitable, cheaper, and easier to administer. The cloud's benefits may also encourage greater public investments in broadband—further enhancing the accessibility, reliability, and equity of the wider digital environment and delivering cutting-edge technologies to broader swaths of humanity.

But as with other digital technologies, the cloud's promise for advancing equity, inclusion, and prosperity is matched by the dangers of its misuse by governments and providers.

“While governments may support an equitable geographic distribution of cloud infrastructure and services, they may just as easily exclude—inadvertently or by design—certain peoples or regions from these critical investments.”

Government involvement in or management of the cloud environment may also enable policymakers to “turn off the lights” on the cloud, subjecting individuals to digital—and, by extension, commercial and welfare—blackouts. As digital technologies have increasing implications for freedom of speech and expression, voting, and privacy, government intervention in the cloud may threaten these rights.

Power asymmetries between customers and providers can similarly undermine equity, inclusion, human rights, and civil liberties. Providers have broad authority over the platforms—from moderating cloud-hosted content to determining access to and commercialisation of private data to setting prices for their services. And yet, customers often lack both choices in the cloud market and visibility into providers' operations. These imbalances can easily lead to privacy violations, biased moderation of cloud-hosted content or speech, service restrictions, exploitation of private data, or selective exclusion from the digital economy. These dangers are accentuated by the widespread and growing use of machine learning algorithms, making the cloud's environment opaquer and more uncertain.

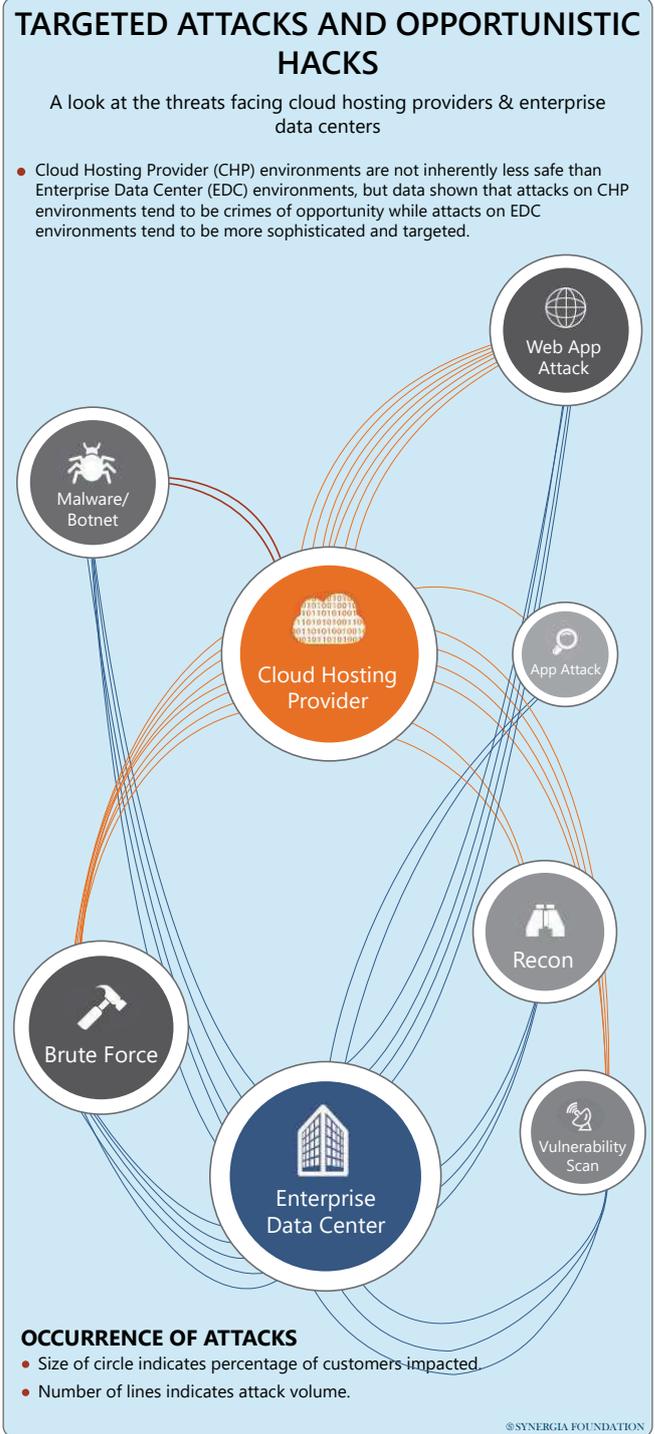
THE WAY FORWARD

Like the wider digital ecosystem, the cloud is ripe with trade-offs and contradictions. There is no silver bullet for ensuring that the cloud becomes a force for equity, inclusion, and prosperity, as opposed to a tool for exploitation and exclusion. Managing this double-edged sword will require stakeholders to hold themselves and each other to account over issues of equity and inclusion.

Governments must regulate against violations of consumer protections and exploitative business practices

and refrain from using the cloud to repress citizens, pursue narrow political interests, or unlawfully access private data. Customers must demand equitable access, fair treatment, privacy, and freedom of speech in cloud services, as well as leverage their purchasing power to shape market conditions and providers' incentives. And providers must not only uphold equity and inclusion in their service offerings but also resist government attempts to manipulate the cloud, provide transparency in their equity-promoting efforts, and reject exploitative and discriminatory business practices.

In an ecosystem where stakeholders' interests and incentives are complex and often in conflict, concerns about equity and inclusion cannot fall by the wayside—and neither can issues of sustainability, resilience, or market concentration. Rather, they must be among the core priorities shaping the cloud's development.



AR.
NO. 05

THE SPECTRE OF SPECTRUM ALLOCATION

A war for spectrum is brewing in the Indian telecom space, where the imminent arrival of satellite broadband services threatens to displace leaders



SYNERGIA FOUNDATION
RESEARCH TEAM

As the Indian market primes itself for the introduction of 5G and satellite broadband services, terrestrial telcos and satcom operators have crossed swords over the allocation of spectrum. Apart from disagreeing over the possible allotment of a 28 GHz frequency band for 5G networks, the two sides have clashed over the allocation of satellite spectrum. While organisations like the Cellular Operators Association of India (COA) support an auction mechanism, the Satellite Industry Association (SIA) and the Broadband India Forum (BIF) have advocated for an administrative allocation of spectrum.

It is incumbent on the Government of India to resolve this matter at the earliest, in line with the regulations laid down by the International Telecommunications Union (ITU). At the end of the day, the interests of end-users are at stake, as the country seeks to bridge its yawning digital divide.

THE UNDERLYING CONTEXT

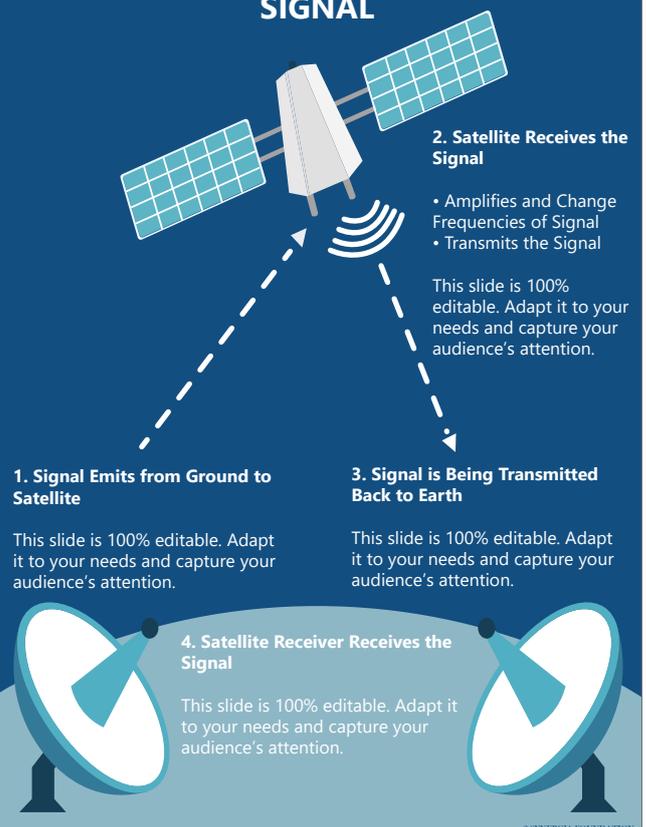
Over the past few months, India's satellite industry has witnessed heightened activity, especially in the broadband space. Starlink, the satellite internet project of SpaceX, has already commenced pre-orders for its broadband services in India at a refundable deposit of \$99. Other international majors like Amazon and Telesat have also expressed interest in entering the market.

Meanwhile, OneWeb - the Low Earth Orbit (LEO) satellite communications company backed by Bharti Airtel, has applied for statutory approvals to the telecommunications and space departments in India. Given that satellite services will be expensive for ordinary users, however, it plans to initially cater to the B2B segment. This implies that it will enter partnerships with terrestrial telcos to provide cellular backhaul in remote regions where the mobile infrastructure

is weak. Capacity would also be offered to armed forces camped in the Himalayas, shipping agencies, the railways as well as the forest department.

Despite such delineation of market segments, global LEO satellite constellation operators will eventually compete with terrestrial telcos for the same set of customers. It is only a matter of time before satellite broadband costs can rival that of cellular providers. Against this backdrop, it is not surprising that mobile operators have pushed for competitive bidding of satellite spectrum to ensure a level-playing field in the licensing framework.

SATELLITE COMMUNICATION FOR TRANSMISSION AND RECEIVING OF SIGNAL



SPECTRUM MANAGEMENT

Throughout history, governments have resorted to different models for managing the spectrum. When airwaves are slated to be used by government agencies, licenses are often awarded through non-market-based procedures. There may also be other cases where the government believes that regulators are best suited to grant licenses through a direct administrative procedure. Known as the ‘command and control approach’, this model of spectrum management allows the government to do all or some of the following: decide the number of players, select them through an administrative procedure, fix a subsidised price for the spectrum and determine specific technologies or services for spectrum use.

This approach, however, has been criticised for limiting user input and involvement. As early as 1959, Ronald Coase – a British economist, had asserted that the command-and-control model was not the most economically efficient way of assigning a scarce resource. According to him, the best method for distributing it was through a ‘price-setting mechanism’ that ensured that the recipient of a frequency band would generate the greatest possible value out of it. In recent years, with the massive consumption of broadband services, governments have been forced to explore such policy innovations. Market-oriented mechanisms are considered essential, particularly for commercial spectrum assignments, in order to ensure fair competition in the high-demand spectrum. Indeed, many governments have opted for auctions that grant buyers exclusive access to a block of spectrum for a defined period.

“Traces of this historical trade-off between market allocation and administrative planning mechanisms continue to be discernible today.”

The recent tussle between satcom operators and cellular networks is only the latest manifestation of this issue.

THE AUCTION RATIONALE

As the large-scale commercial adoption of space-based broadband services becomes inevitable, cellular operators like Reliance Jio and Vodafone Idea have made a case for the auction of satellite spectrum. The 2012 judgment of the Indian Supreme Court in the controversial 2G case has been cited to assert that auctions are the only “legally valid mode of allocating spectrum for communication services”. According to these terrestrial telcos, only competitive bidding can ensure optimum utilisation of a precious and scarce natural resource. Any other administrative allocation would cause a huge loss to the national exchequer. This echoes the ‘Coase school of thought’, which argues that market mechanisms are necessary to promote innovation and more efficient use of spectrum resources. Meanwhile, Telecom Watchdog – a consumer forum and an NGO, has directed the Department of Telecommunications to stop satellite operators from acquiring 4G and 5G spectrum

through the backdoor, as mobile players have had to buy this expensive spectrum through multiple rounds of auction. The forum believes that any deviation from this standard method of auctions would “upset the level-playing field in the telecom sector”.

ADMINISTRATIVE ALLOCATION

The proposal to auction satellite spectrum has been vociferously opposed by satcom players. In their view, such a spectrum can never be exclusively assigned to the operator by way of auctions. Unlike the terrestrial spectrum, it operates in an inherently international environment, with multiple operators sharing different orbital slots and satellites. The process of allocating spectrum is subject to approvals by the International Telecommunications Union (ITU) and involves global coordination among numerous regulators. In this context, administrative assignment is perceived to be the best method for allocating satellite spectrum. On the other hand, concurrent auctions that grant exclusive rights to operators in different countries can contribute to a more fragmented spectrum landscape. It will also increase the financial burden for satellite players who operate in multiple jurisdictions. Similar concerns do not exist for terrestrial telcos, as the allocation of the spectrum would be restricted to national territories. As a result, jurisdictions like the United States have specifically enacted legislation that prevents the proliferation of auctions in international satellite authorisations. For instance, the ORBIT Act prohibits competitive bidding in the spectrum used for international satellite communications services. Building on the same logic, satellite broadband players have pushed for an administrative allocation of spectrum in India. According to them, the 2012 judgement delivered by the Apex Court cannot be invoked for the allocation of satellite spectrum, as the facts of the dispute were confined to the terrestrial spectrum.

Assessment

Over the coming months, the government will have to guarantee a predictable path for satellite spectrum allocations while deftly balancing equity and respect for the rights of existing telcos. This will allow interested market players to plan their investments and introduce their technology in a timely manner.

Big telcos have relied on the 2012 Supreme Court judgement to argue for the auction of spectrum. However, this means that other categories of service providers may find themselves at the losing end.

Although auctions can help to achieve revenue maximisation, they may lead to increased prices for the consumer. At a time when the Covid-19 pandemic has exposed deep inequalities within India’s internet economy, it is important to deliver affordable and high-quality broadband services with good coverage. Market mechanisms may hamper this long-term objective. Only a fair and administrative allocation of spectrum at reasonable costs can amplify the value generated by a spectrum band.

06



REVISITING THE 2G SPECTRUM CASE



SYNERGIA FOUNDATION
RESEARCH TEAM

The recent controversy over the allocation of satellite airwaves has resurrected the ghost of the 2G spectrum case. In this context, it would be timely to revisit the 2012 judgement delivered by the Supreme Court of India, which discusses the key aspects relating to spectrum allotment. As can be recalled, in January 2008, the Department of Telecommunications (DoT) had decided to issue 2G spectrum licences on a ‘first-come-first-serve basis’.

However, allegations of illegalities were raised in the allotment of this spectrum, prompting the Central Bureau of Investigation (CBI) to file a chargesheet against accused persons. Meanwhile, the Comptroller and Auditor General (CAG) of India submitted a report suggesting that the tender process for 2G spectrum allocation had been tainted by irregularities, causing a loss of Rs 1.76 lakh crore to the exchequer.

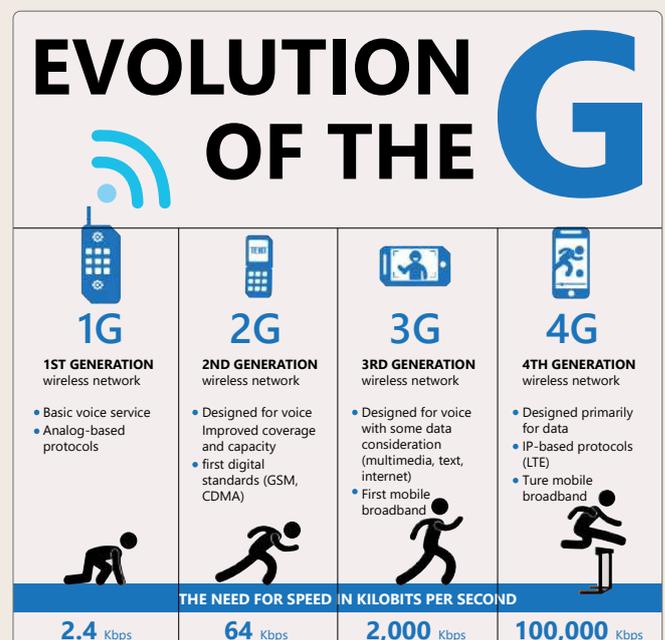
Against this backdrop, a Public Interest Litigation (Writ Petition (Civil) No. 423 of 2010) was filed in the Apex Court, which challenged the constitutionality of the ‘first-come-first-served’ policy. According to the petitioners, the grant of licences through this procedure was arbitrary, illegal and violative of Article 14 of the Constitution. Given that the spectrum was a scarce national asset, it was urged that the allocation be undertaken through auctions to ensure a level-playing field among prospective licensees.

While considering this issue in February 2012, the Apex Court observed that there was a fundamental flaw in the principle of ‘first-come-first-served’ because it involved an element of pure chance. Whenever the government made a decision to dispose off a public asset, persons with privileged access to the corridors of power could act quickly to jump ahead of the queue. To ensure a transparent and fair method

in making selections, all eligible persons had to be afforded the opportunity to compete on equal basis. Accordingly, it was held that the Telecom Regulatory Authority of India should make fresh recommendations for the grant of licence and allocation of 2G spectrum, by way of auctions.

However, in a subsequent Presidential Reference ([2012] 9 S.C.R) pertaining to the 2G case, it was opined that “the court cannot conduct a comparative study of the various methods of distribution of natural resourcesit respects the mandate and wisdom of the executive for such matters”. Given that the disposal of natural resources was an economic policy choice, the court could not constitutionally mandate the use of auctions.

While acknowledging that auctions may constitute the best method for maximising revenues, the Court noted that revenue maximisation need not always serve the public good. It exercised its advisory jurisdiction to point out that developmental objectives may outweigh revenue considerations in certain exceptional circumstances.



AR. NO. 07

ANCHORING THE DARK CONTINENT

A fractious and deeply divided South Africa does not bode well for the stability of the larger region.



SYNERGIA FOUNDATION
RESEARCH TEAM

As the dust settles after a devastating week of riots and looting, South Africa will not find it easy to recover from the impact of its worst civil unrest since the end of the apartheid in 1994. Apart from political fissures within the African National Congress (ANC), the violence has exposed the deep-rooted economic inequality that pervades the rainbow nation. Unless these structural causes are addressed, South Africa will continue to remain volatile. This, in turn, can have broader implications for the African region.

ON A HAIR-TRIGGER

With rising poverty and unemployment playing havoc with its social fabric, exacerbated by the Covid-19 pandemic, South Africa has been simmering with discontentment for a long time. All it took was a small spark, in the form of Mr Jacob Zuma, for this anger to spill out into the streets.

Accused of money laundering and corruption during his presidential tenure, Mr Zuma was jailed for contempt after he refused to testify at a state-backed graft inquiry by the country's constitutional court. This setback, however, failed to diminish his popularity as a charismatic leader among certain sections of the population. His arrest was projected as an attack on the Zulu community, of which Mr Zuma is a leading luminary, inciting supporters and loyalists to run riot in his home province of KwaZulu-Natal.

Eventually, these demonstrations spiralled out of control, with violence and chaos spreading to other parts of the country. Criminal gangs were quick to highjack the protests, pillaging shops and property, forcing many residential townships to resort to armed vigilante groups for protection. Although the large-scale deployment of soldiers by the South African National Defence Force eventually

quelled this violence, the impact of this crisis will last well into the following months. Already reeling from recession and pandemic-imposed constraints, the country's economy is likely to sustain substantive damage in the long run. The recent unrest may also cause domestic and international investors to think twice before investing their capital in the country.

Moreover, short-term disruptions to the supply chain can be expected, with deficiencies in the availability of food and other essential goods. In fact, many fear an impending famine in the country.

The riots have also slowed down the pace of Covid-19 testing and vaccination, even as officials warn that the mass protests may have triggered a new surge in infections.

THE HEART OF THE MATTER

Socio-economic inequality continues to plague South Africa, with its disproportionate effects being felt by the black population. More than half of the country lives in poverty, and around 20 per cent suffer from crippling food insecurity. Several communities are also forced to inhabit informal settlements with inadequate housing and inhumane living conditions.

Against this backdrop, the ruling ANC has been blamed for betraying the country by profiteering off a corrupt economic system. It is accused of privatising important sectors like education, infrastructure, and health care, to the detriment of the country. Moreover, allegations of torture and unlawful violence by police mechanisms have fuelled further disenchantment.

With multiple factors eroding the support base for ANC, malicious elements have exploited racial and ethnic divisions to turn the people against each other. As remarked by Kenan Malik in the Guardian, apartheid-defined categories of people such as "blacks", "coloureds" and "Indians" have re-entered public discourse. It is no surprise, therefore, that specific communities like Indian-origin South Africans have

been targeted in the latest outbreak of hostilities.

REGIONAL TREMORS

The latest unrest in South Africa cannot be dismissed by the international community as an ‘internal problem’.

“Although corruption scandals and political infighting have caused the country to look inward in recent years, it remains a diplomatic powerhouse to reckon with.”

Since the end of apartheid, South Africa has always demonstrated a strategic commitment to regional peace and security, despite its domestic constraints. It has extensively contributed to the conceptualisation, establishment and harmonisation of regional bodies and institutional frameworks like the African Union (AU), the New Economic Partnership for Africa’s Development (NEPAD) and the Southern African Development Community (SADC). By working with these institutions, the country has decisively shaped the political and economic trajectory of the larger continent.

Under the framework of the African Peace and Security Architecture, Pretoria has acted as an interlocutor between African politicians and rebel leaders, albeit with mixed results. Although it has undertaken peacebuilding initiatives in several countries like Ethiopia/Eritrea, Comoros, Liberia, South Sudan, Zimbabwe, and Côte d’Ivoire, the country’s most comprehensive engagements were in Burundi and the Democratic Republic of Congo (DRC).

Currently, South Africa continues to assert its continental leadership in mitigating some of the most violent conflicts in Africa. It is one of the top ten contributors of troops in the United Nations’ stabilisation mission in the DRC (MONUSCO). It also hosts approximately 270,500 refugees and asylum seekers, most of whom have escaped from poverty, political violence, and war in other parts of Africa.

As one of the largest regional economies, South Africa brings to bear considerable heft in the SADC free trade zone as well as the South African Customs Union (SACU). Its trade and investment linkages are significant drivers of economic growth in the continent. It also provides development assistance through state-owned enterprises like the Industrial Development Corporation and Development Bank of Southern Africa.

The latter, in particular, has driven financial and non-financial investments in infrastructure for the benefit of countries in the SADC. Most recently, in the wake of the Covid-19 pandemic, it has pledged almost 30.5 million Rand for SADC member states to procure personal protective equipment (PPE).

Finally, South Africa is often portrayed as a ‘spokesperson for Africa’ in international forums. This externally conferred title has been popularised by Western countries, owing to the nation’s commitment towards human rights, democratic

governance, and economic liberalisation in the post-Apartheid era. Even Pretoria has sought to assert itself as a representative that pushes for “African solutions to African problems” at multilateral fora.

Given this reality, South Africa is an important ‘anchor state’ in Sub-Saharan Africa, along with Nigeria, Kenya and Ethiopia. Owing to its size, population, economic strength, and military prowess, any tensions in this country can have ripple effects in the broader neighbourhood.

What's going on in South Africa? In 5 questions

- 1 How did the protests and rioting begin in South Africa?**

Former President Jacob Zuma failed to attend a court hearing on June 29, leading to a 15-month prison sentence for contempt of court.

Zuma rejected the court's verdict and resisted arrest before eventually surrendering in KwaZulu-Natal province on July 8.

On July 9, supporters of the former president flooded the streets in several areas of KwaZulu-Natal.
- 2 In which cities and regions is the violence taking place?**

Most incidents have been seen in the provinces of **Gauteng and KwaZulu-Natal**.

Gauteng is the financial hub of South Africa, while KwaZulu-Natal is the country's door to the Indian Ocean.

Johannesburg, the largest city in South Africa, has been hit hard in the violence.
- 3 How are Zuma's arrest and the rioting related?**

Rampant poverty in South Africa and pervasive youth unemployment, which currently stands at over 50%, has played a significant role in the violence.

Experts agree that impoverished citizens, who were already feeling the impact of the country's difficult economic conditions, have further fueled the chaos and pillaging.
- 4 What steps have been taken by the government?**

The government and judiciary have emphasized the importance of maintaining rule of law, reiterating that authorities will not give in to the violence.

With police failing to control the spiraling unrest, the army has been deployed to restore order.
- 5 Where do the casualties and damages currently stand?**

At least 72 people, including a police officer, have lost their lives in the violence.

Hundreds of malls, stores, and workplaces have been destroyed and plundered.

The estimate of damage caused in the violence has run into billions of dollars.

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Assessment

Without resolving systemic issues like socio-economic inequality, the spectre of instability will continue to haunt Pretoria. The ANC should undertake some soul-searching about its vision for a post-Apartheid South Africa.

The security and development architecture in Africa is deeply interwoven with a peaceful and prosperous South Africa. Any volatility in this regional power, therefore, can be destabilising for the entire continent.

AR. NO. 08

DRONES-WEAPONS OF CHOICE

In a battle space increasingly dominated by high-altitude remotely piloted vehicles, India has no option but to procure state of the art systems, either domestically or through imports.



SYNERGIA FOUNDATION
RESEARCH TEAM

A complex new era of security threats is challenging every government around the world to evolve the way it operates. The good news for India is it's already on the vanguard, although the Indian military has barely scratched the surface of the huge potential that this weapon system portends.

The search is now for a high altitude, long-endurance remotely piloted aircraft that can connect existing naval, air and ground forces from their current posture to the new type of multi-domain operations.

DAWN OF A NEW ERA

Remotely piloted aircraft changed the course of conflicts in Afghanistan, Iraq, Syria and elsewhere because they could establish patterns of life, see where vehicles travelled, how subjects of interest conducted themselves on the ground, and much more.

The human pilots and sensor operators in control of these aircraft operate safely from ground stations, sometimes thousands of miles away. That means they can work in regular shifts from the comfort of a land base – as compared to aircrews aboard an aircraft that must spend some of its mission flying back and forth from its operating area.

An aircraft that can stay over a critical area for long periods of time is an ideal relay for communications networks, for example. It can provide data connectivity to forces on the ground, other aircraft, naval vessels, or other units.

These networks, and these types of vital connectivity, are a plank of multi-domain operations. They mean that

soldiers, airmen, sailors, and others not only can stay in constant touch with each other but see what the others' see at the same time they do, and if necessary, act on it together.

These aircraft, under the control of their human crews, also can release weapons with precise and lethal effect, earning them reputations both among friendly and hostile forces on the ground. In fact, American commanders credited the mere presence of MQ-9A Reapers overhead in Iraq in 2019 with dissuading possible attacks by outside antagonists.

COMBAT PROVEN

While the U.S. undeniably remains the leader in drone technology, a surprising new (and extremely successful) entry has been Turkey. The Turkish military has fine-tuned its operational concepts to a fine degree deploying drones in synchronisation with electronic warfare suits, anti-aircraft defences and air force, thus making the drones invulnerable to enemy countermeasures.

The degree of success achieved by this operational philosophy has been proven time and again in myriad



conflicts. In February 2020, Turkish drones mercilessly decimated the Syrian attack, with Russian air cover, in the Idlib province. As per statistics put out by the Turkish defence ministry, over 2000 Syrian soldiers were killed and over 100 tanks destroyed along with sundry artillery pieces, ammunition dumps etc. Similarly, when the Libyan warlord Khalifa Haftar was on the verge of capturing Tripoli, Turkey launched its drones in support of the UN-recognised government of Sarraj. The sharp losses suffered forced Haftar to recoil and ultimately come to the negotiation table.

However, Turkish drones achieved a clear victory in Nagorno Karabakh when the much better armed Armenian military could find no answer to the relentless pounding by these drones procured by Azerbaijan and used as the spearhead of their offensive.

HOMEGROWN DRONES

In the Indian context, the immediate need is for high altitude, long-endurance (HALE) drones for operations in higher reaches of Kashmir, Ladakh, Arunachal Pradesh, and Sikkim to match the growing threats from China and its ally Pakistan. The fact is that India lags in drone technology and has ended up procuring expensive platforms from Israel.

The Indian defence industry, led by the public sector undertaking HAL and supported by a clutch of start-ups, are working tirelessly to plug the gap in drone technology. Rustom 2, the medium altitude long endurance drone under development by the Defence Research and Development Organisation, is the front runner. Yet it is many years from full operational status, having completed its maiden medium-altitude test flight at over 27,000 feet for more than 18 hours this April.

OTHER OPTIONS

As per ResearchAndMarkets.com. the demand for UAVs in the Indian defence sector is likely to reach almost \$ 2 billion by 2026 owing to a rapidly growing demand for advanced security systems. So far, the demands for Medium Altitude Long Endurance (MALE) UAVs is largely being met by Israeli platforms. In May, it was reported that four Heron Mark II were being leased for three years, primarily for ISR duties over the Line of Actual Control with China. In a similar move, the Indian Navy has been keeping a watch over the Indian Ocean for lurking PLAN submarines through two leased MQ-9B Sea Guardian drones, variants of the iconic armed Predator. As regards HALE, as per recent media reports, India is contemplating sealing a deal costing over \$3 billion for 30 ‘hunter-killer’ weaponised drones for the army, navy, and air force. A global leader is the Northrop Grumman produced RQ-4 Global, a combat proven platform that saw service Operations Enduring Freedom, Southern Watch, and Iraqi Freedom. It has a maximum endurance of over 32 hours and a ferry range of 22,780km. It can fly at an altitude of 60,000ft.

Some other choices could be the General Atomics Aeronautical Systems manufactured SeaGuardian/SkyGuardian, MQ-9 Reaper and other pace-setting aircraft, which change the game both because of what they can do

on their own but also what they make possible as part of a larger force.

“Since 2020, the Indian navy has gained considerable operational experience through their two leased MQ-9 Predators. These have proved to be effective naval assets capable of feeding intelligence, surveillance, and reconnaissance data to top leaders from any point of interest over sea or land.”

What makes this new generation HALE drones an ideal platform for sea denial is that they can network with multiple aerial, surface and sub-surface platforms to engage submerged submarines, a growing menace in the seas around India. The newer versions like the SkyGuardian goes many notches forward, giving far more capabilities to a host of operational situations over land and sea.

Russia's Okhotnik stealth drone
 The Sukhoi S-70 Okhotnik (Hunter) is Russia's first heavy unmanned aerial vehicle (UAV), designed to perform reconnaissance and strike missions using high speed and fully autonomous flight

SPECIFICATIONS (estimated)	
Wingspan	19 metres
Take-off weight	20 tonnes
Maximum speed	1,000km/h
Range	4,000km
Payload	Up to two tonnes

Armament
 Air-to-surface missiles and array of bombs carried inside ventral bay or bays to reduce drone's visibility on enemy radar

"Fully robotized" vehicle capable of making independent combat decisions – only requiring human operator to deploy weapons

Weapons bays: Should be able to carry most, if not all, missiles and munitions being developed for Russia's Su-57 multirole aircraft, including hypersonic missile with characteristics similar to Kh-47M2 Kinzhal

Flat "flying wing" design similar to U.S. Air Force's B-2 stealth bomber

Possible hypersonic weapon

Source: GlobalSecurity, Jane's 360, The National Interest ©SYNERGIA FOUNDATION

Assessment

The Indian armed forces need systems to generate high levels of domain awareness over vast swathes of its landmass and surrounding oceans. This must be done at a much more affordable cost than conventional manned platforms like the P-8 currently in service. The fact that these platforms are equally adroit in operations over land makes that much more attractive and affordable.

As the Chinese PLAN grows into a full-fledged blue water extra-regional force, India will have to work together with its QUAD allies. Therefore, assets that can work seamlessly in multinational, multi-domain operations would be most suitable.

AR. NO. 09

CLIMATE OVER TRADE

The EU's move to impose border levy on carbon-intensive imports has caused great consternation amidst its trading partners.



SYNERGIA FOUNDATION
RESEARCH TEAM

An incriminatory report by the Intergovernmental Panel on Climate Change, which links extreme weather events to anthropogenic activity, has caused disquiet among the global community. As scientific experts urge countries around the world to cut emissions and achieve net-zero targets, the almost concurrent declaration of the EU to legislate a Carbon Border Adjustment Mechanism (CBAM) has generated a great deal of interest. However, there is a price to be paid by all concerned, prompting widespread consternation amongst countries who look to the EU to recover from the pandemic-imposed economic slowdown.

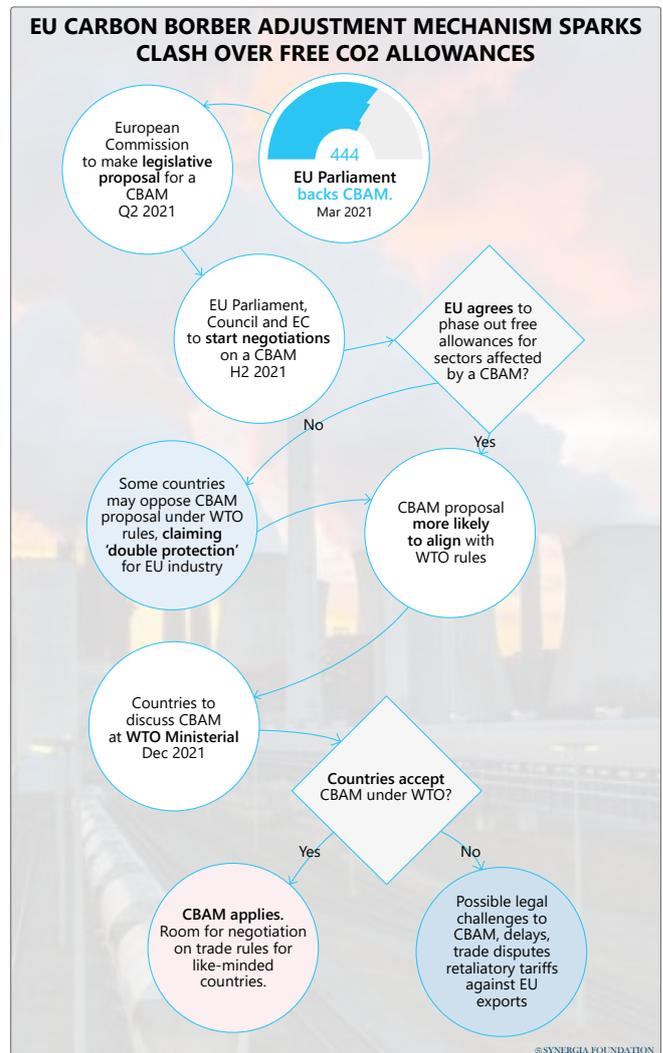
THE PROMISED FRAMEWORK

Under the proposed regime, any company/ country that wishes to sell carbon-intensive goods to the EU will have to shell out an additional levy, making its products even more costly. Since domestic manufacturers within the EU already use expensive climate-friendly processes to cut down carbon emissions, their costs are naturally higher. The CBAM will ensure that a level playing field is created outside the 27-member trading bloc.

It will be mandatory for the imported goods to be validated by digital certificates representing the carbon emission tonnage embedded during their manufacture. The price of these certificates will reflect that of the EU's emissions trading system. However, if the products have already been subject to a carbon levy in the countries of origin, the imports may be eligible for a reduction in costs.

To ensure a seamless transition that provides businesses with legal stability, the CBAM will be implemented in a phased manner. Initially, it will only apply to a select list of goods with high risks of carbon leakage, like cement,

aluminium, electricity, fertilisers, iron, and steel. Once importers have monitored and reported their emissions for an interim period (2023-25), the system will become fully operational by 2026. EU businesses will be expected to make an annual declaration about the quantity of goods and the amount of emissions embedded in their imports, which will determine the corresponding number of CBAM certificates that need to be purchased.



For now, the adjustment mechanism will only apply to the production of those goods that directly emit greenhouse gases. It will not cover indirect emissions like the generation of electricity to produce goods.

GREENING IMPORTS

The CBAM represents a concerted bid by Brussels to implement its ambitious climate action policy. As part of the European Green Deal, the bloc has pledged a 55 per cent cut in emissions by 2030, which is an important milestone in reaching net-zero emissions by 2050.

Currently, EU industry polluters are charged for their carbon dioxide output through the Emissions Trading System, which sets a cap on overall emissions. Permits are required to be purchased for every ton of carbon dioxide produced, thus adding to the cost of manufacture. This makes domestic companies less competitive than their foreign counterparts, especially those whose national environmental laws are lax or non-existent. There is a very real concern in the European Commission that this may see a flight of carbon-intensive domestic businesses to jurisdictions with less-stringent emission reduction rules, impacting the already depressed employment market. Thus, the creation of a level playing field for all similar producers globally can undercut the logic of relocating carbon-intensive production outside Europe.

In the event that exporting countries have a relatively robust carbon pricing scheme, the EU has left open the option of exempting them from the CBAM. This could be achieved by negotiating preferential trade agreements or updating existing accords with them. Such cost exempting mechanisms can also serve as a motivation for polluting states to green their own production processes and base their carbon prices on EU benchmarks.

GEOPOLITICAL COSTS

As was to be expected, the CBAM has received extensive domestic support, with great traction in countries like France, Germany, Poland, and Spain. The U.S. is also working along similar lines, with its own version of border tax adjustments, to protect against carbon leakage and 'unfair competition' in international trade.

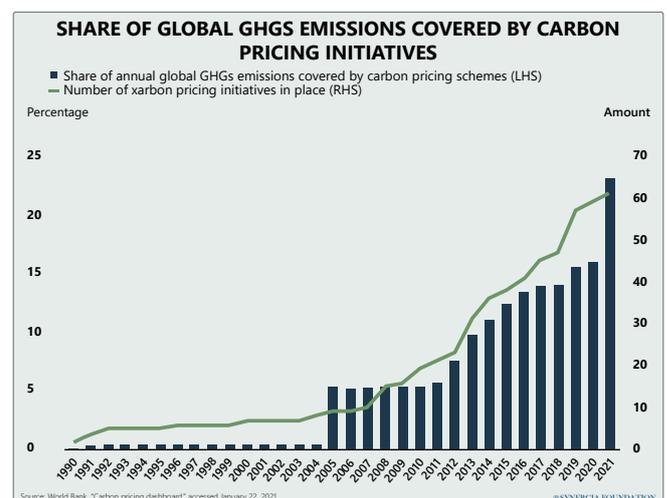
However, despite the apparent environmental benefits, the CBAM has been met with rising protests by a host of trading partners- Russia, India, South Africa, China, Turkey, Qatar and Saudi Arabia. According to them, the CBAM is a 'disguised' tax or tariff, which promotes a protectionist regime and violates the spirit of an international free trading system. Its impact will be disproportionately felt by companies in emerging markets that have based their competitiveness on a combination of cheap labour and low manufacturing costs.

China, in particular, has argued that the EU's plan tends to conflate climate issues with trade, thereby impeding the prospects for economic growth. Given that the country is one of the largest manufacturers of industrial raw materials,

this criticism comes as no surprise. Even Russia stands to lose substantially - the cost to its steel producers alone will be anywhere between USD 780 million and 800 million per year.

“India has taken up the cudgels on behalf of the developing world, citing the principle of ‘common but differentiated responsibilities.’”

According to it, the richer countries, having reached their current level of prosperity through an unrestrained carbon-intensive industry, must bear the primary responsibility to bring down their per capita greenhouse gas emissions to the global average. Apart from vacating carbon space for developing nations, developed countries are also expected to assist their poorer counterparts with financial and technological assistance to meet climate action targets. Against this backdrop, the EU will have its work cut out in allaying the concerns of its trading partners. The coming months will be crucial in shaping the trajectory of its climate diplomacy.



Assessment

Despite its good intentions, the CBAM may have a severe impact on global trade and, therefore, must conform to the rules of the World Trade Organisation. Given that it has a disproportionate effect on specific exporting countries, there is a high possibility that the mechanism may be challenged as an unfair trade practice. In fact, some nations have already criticised it as 'the latest form of economic imperialism'.

Under the guise of climate concern, the EU has tilted the trading balance in its favour. Since most EU manufacturers have already invested in capital-intensive eco-friendly technologies, they will naturally enjoy a head-start in meeting compliance costs.

For India, the CBAM has come at a particularly sensitive time. It is currently deliberating the possibility of a free trade agreement with the EU, as a logical culmination of the flourishing economic relationship between the two allies. The proposed carbon border levy could throw a spanner in these works.

AR. NO. 10

THE CBDC CONUNDRUM

CBDCs promise enhanced financial transparency in democracies, but at what cost?



T. Rabi Shankar, the Deputy Governor of the Reserve Bank of India (RBI), has caused quite a buzz among industry stakeholders by signalling that the country may launch its own sovereign digital currency. Acknowledging that virtual tender will be an integral part of the future, he has remarked that “sustained efforts are underway to evaluate the application and viability of a Central Bank Digital Currency (CBDC)”.

Evidently, encouraged by the launching of CBDCs by major economies like China, the RBI is preparing for a future when CBDCs will replace the current form of fiat currency. To avoid disruptions in the banking and monetary systems, however, India will need to transition through a deliberate and well-thought-out process.

Globally, the experience with cryptocurrencies has not been very pleasant due to their volatility and unpredictable impact on the real economy. Against this backdrop, Mr. Shankar expects the development of CBDCs to carry the legitimate benefits of private virtual currencies, while avoiding their damaging social and economic consequences.

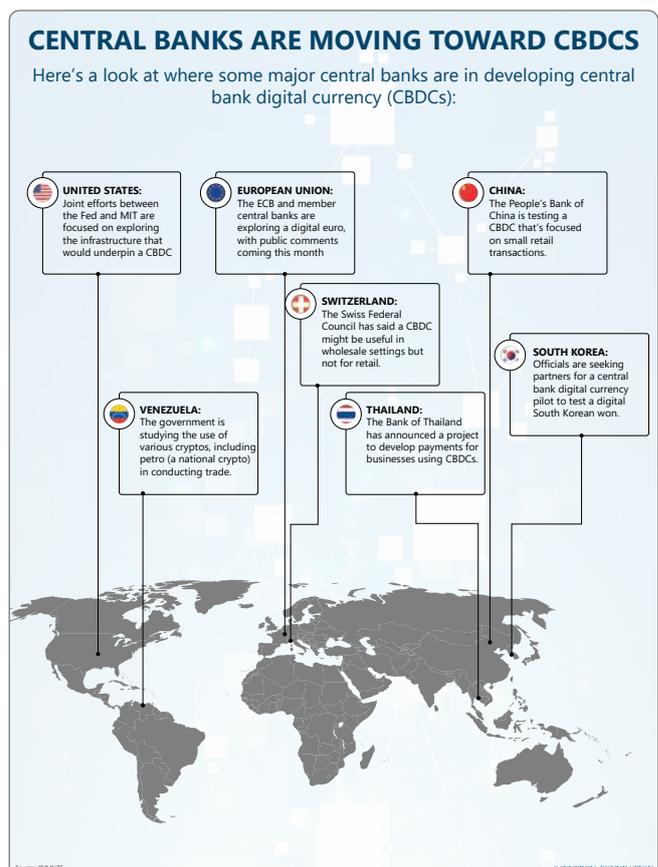
A GROWING TREND

CBDCs have been a hot topic in economics and finance over the past few years, with exhaustive studies being published by central banks, multilateral organisations and thinktanks.

According to a survey conducted by the Bank for International Settlements, around 86 per cent of central banks around the world are contemplating the issue of CBDCs, while 14 per cent have already launched or are in the process of launching pilot projects. This list includes major economies like UK, the EU, Canada, Russia, and Spain.

Most recently, China carried out pilot trials of its digital yuan, prompting rival nations like the U.S. to assess their own options. In fact, the U.S. Federal Reserve System is expected to publish the results of its study on CBDCs by September 2021.

In the Indian context, a high-level inter-ministerial committee set up in 2017 released its report in 2019, which flagged the risks associated with private cryptos, including value fluctuation and the exploitation of user anonymity for terror funding and money laundering activities. It recommended CBDCs as a more stable form of virtual currency, backed by sovereign regulation.



The recent statement of RBI's Deputy Governor about the phased rollout of an Indian CBDC is apparently a sequel to that report and indicative of work in progress.

FINANCIAL TRANSPARENCY

For a developing country like India, the prospect of CBDCs is particularly attractive. Given that it introduces an alternate payment system not managed by the private banking sector, it opens a direct channel between the government and its citizens.

Currently, if the RBI wants to stimulate economic activity, it has no direct access to the accounts of citizens and firms. It must manipulate the interest rates on central bank reserves, hoping this will translate into changed credit policies by commercial banks. With the introduction of CBDCs, however, such middlemen will be eliminated. The government can 'air drop' money to a whole nation or impose negative interest rates. Furthermore, it will be able to disburse subsidies to disadvantaged citizens without fearing any fund leakages.

The new monetary policy instrument is also expected to improve financial inclusion. At present, there are only 582 million bank accounts in the country, as compared to 1.2 billion mobile connections. With the introduction of app-based CBDCs, however, India can potentially open a gateway for unbanked individuals to have access to electronic payment systems.

Moreover, the inherent traceability of digital transactions is expected to inhibit the use of CBDCs in illicit activities like money laundering and terror financing. By reducing the anonymity of transactions associated with paper currency, the government can bring more activities out of the 'shadow economy'. This, in turn, can expand its tax base and facilitate the collection of revenues more efficiently. Tax evaders would be hard-pressed to conceal their financial transactions, in a system that allows for real-time situational monitoring.

PRIVACY CONCERNS

A 'digital rupee', however, connotes a degree of centralised control over financial transactions in a manner that was hitherto not possible.

“Even the most libertarian framework will fall short of the complete anonymity afforded to users by paper cash.”

Bearing this in mind, the new monetary instrument will have to be underpinned by privacy standards that uphold the values of constitutional democracy. The entire use of physical cash cannot be tainted by its limited applications in illegal activities like money laundering, tax evasion or terror financing. A large majority of the population has a legitimate interest in protecting its confidentiality through anonymous bearer instruments. Any democracy, let alone India, can-

not ignore the civil liberty implications of digitally enabled surveillance. Up until now, banks and other private-sector institutions had acted as a buffer between the government and the financial records of users. With the introduction of CBDCs, however, the central bank will have access to detailed information about every financial transaction in the country. Without proper oversight, the concentration of such powers in a government agency can be an Orwellian nightmare. Apart from regulatory capture, there is the added risk of information misuse by bank personnel, owing to the immense potential in data monetisation.

A BALANCING ACT

At a time when India is rocked by the Pegasus spyware case, it would behove the RBI to be mindful of privacy concerns. In this regard, it is important to transcend a 'zero-sum' trade-off between anonymity and transparency. With the help of modern privacy-enhancing technologies, it may be possible to strike the right balance between seemingly conflicting interests. In 2019, the European Central Bank had published a paper that explored the "hybrid privacy" model. This referred to a "simplified CBDC payment system that allows users some degree of privacy for lower-value transactions, while still ensuring that higher value transactions are subject to mandatory AML/CFT (Anti-Money Laundering/Combating the Financing of Terrorism) checks" Cryptography has been touted as another tool that can protect user identities without disclosing full information to governments and third parties. According to advocates of this technology, a 'backdoor' can be effectively designed to permit data mining for end-user services, policymakers, auditors, and law enforcement agencies, without compromising larger anonymity. Any decision to use this backdoor will have to be subject to judicial oversight. Yet another model that has been suggested is the separation of operative roles. In this framework, account and identity management can be delegated to a Payment Interface Provider (PIP), which puts some distance between the user and the central bank. In the event of any legal investigation, the PIP can disclose the identity of the user within prescribed regulatory limits. As India contemplates the rollout of CBDCs, it will have to carefully scrutinise and adopt such global best practices in data protection.

Assessment

CBDCs portend a complex monetary system, entailing legal, financial, and technical risks. The desire to outcompete China on the geostrategic sphere should not outweigh a genuine cost-benefit analysis. Otherwise, sovereign-backed digital currencies may sound the death knell for democracies around the world.

At the end of the day, the constitutional reality of India dictates a CBDC model that is compatible with data protection measures. Although the privacy afforded by cash transactions may be hard to achieve in virtual currencies, regulatory safeguards against digital surveillance and unlawful seizure of financial assets need to be put in place.



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