Text&Context

THE HINDU

NEWS IN NUMBERS

Road accidents on the Sabarimala route in last 21 days

38 According to officials, road accidents have come down compared to the previous year on the Sabarimala route. Over the past 21 days, a total of 38 accidents were reported within a 400-km radius of Elavunkal, Erumely, and Kuttikkanam, resulting in only 20 minor injuries. PTI

Odisha's loss in excise revenue during COVID due to sales fraud

75 In ₹ crore. The Comptroller and Auditor General (CAG) unearthed a loss of excise revenue amounting to ₹75.07 crore due to manipulation of manually maintained sales registers by retail shops of alcoholic beverages in Odisha during the COVID-19 pandemic. PTI

Drones downed or recovered from India-Pakistan border

260 According to data, more than 260 drones have been downed or recovered from India's border with Pakistan this year as compared to about 110 in 2023. The maximum number of such interdictions of drones carrying arms and drugs have taken place in Punjab. PTI

Value of items stolen during swearing-in ceremony

12 In ₹ lakh. Gold chains, mobile phones and cash cumulatively valued at ₹12 lakh were stolen during the swearing-in ceremony of the Mahayuti government at the Azad Maidan in south Mumbai on December 5, a police official said on Sunday. FIRs have been lodged against unidentified persons. PTI

Bullets stolen from M.P. police's armouries in Morena

200 As many as 200 cartridges of 9mm pistols and self-loading rifles were allegedly stolen from the armouries of the Madhya Pradesh police's special armed forces (SAF) in Morena district. PTI

COMPILED BY THE HINDU DATA TEAM

The place of charity in an unequal society

Billionaire Warren Buffet has given away an amount of almost 52 billion dollars to various charities. While such a move is no doubt commendable, one must also question the processes generating the concentration of such wealth in the first place, regardless of whether it is to be used for philanthropy or not

ECONOMIC NOTES

Rahul Menon

Billionaire Warren Buffet, with a net worth of almost $121 billion by some estimates, has maintained his pledge of giving away his wealth. In a recent message to shareholders of Berkshire Hathaway, he has mentioned a transfer of his wealth to foundations overseen by his children, a total amount of around 870 million dollars. In all, it is estimated that he has given away an amount of $52 billion.

Mr. Buffet's recent message has captured the attention of mainstream discourse as it has outlined his social philosophy with regard to wealth and its place in society. Mr. Buffet believes that wealth should be used to equalise opportunities, that the luck that favoured certain individuals and helped them get rich should be extended after one's death in order to help those less fortunate. While it is not wrong to amass and accumulate wealth during one's lifetime, allowing it to build across generations is a problem for society. While it is no doubt commendable that Mr. Buffet wishes to give away his fortune, one must also question the processes generating the concentration of such wealth in the first place, regardless of whether it is to be used for philanthropy or not. Inequality is not a question of luck, but of specific policy institutions determined by society. In a world of spiralling inequality, both private philanthropy and the problems it tries to solve are two sides of the same coin, emerging from the very same set of social processes.

ISTOCKPHOTO

On luck and equal opportunity

Mr. Buffet's ideas with regard to wealth and welfare can be seen in the context of a philosophical idea called "luck egalitarianism", which states that no-one should have to suffer the consequences of inequality owing to bad luck or adverse situations. As Mr. Buffet repeatedly stresses in his letter, he credits much of his personal fortune to fortuitous circumstances, such as being born as a white male in the U.S. Opportunities were open to him that would not be open to women or African-Americans, and the growth of the U.S. over the years caused his wealth to grow significantly through the power of compound interest.

Some might accuse Mr. Buffet of false modesty, claiming that his fortune has been generated through his own diligent efforts and his understanding of markets. But there is truth in what he says. As Branko Milanovic has shown, a significant factor driving global inequality is the differences in income between countries. Where one is born determines how wealthy one might be relative to the global population. In that regard, Mr. Buffet does display a strong egalitarian zeal. If fortune played a huge role in the differences between Mr. Buffet and others, there is no moral justification for him to pass on his wealth to his descendants. The only moral response is to ensure his wealth can be used to boost the opportunities of those less fortunate. What matters is the equalising of opportunities, and allowing individuals a level playing field in the beginning, rather than trying to equalise final outcomes.

What about charity?

However, there are some important questions that need to be addressed. The distribution of private wealth through charity may help to equalise well-being between individuals, but the process by which this wealth was generated and concentrated has led to the differences in opportunities in the first place. In the developed world, wealth distribution was largely equal during the post World War II period. Widespread deregulation and a turn towards neo-liberal economics saw an explosion of wealth inequality from the 1980s onwards, with the 'trickle-down' economics of Ronald Reagan and Margaret Thatcher leading to the concentration of gains for a tiny sliver of individuals and stagnant wages for the majority. In India as well, the liberalisation of the economy may have led to faster growth, but has dramatically increased inequality and skewed the distribution of opportunities.

Differences in opportunities are not merely a question of luck, but of specific policy choices and interventions. Bill Gates' and Jeff Bezos' wealth came from the monopolies they enjoyed in the marketplace; this is less luck than the failure of policy to ensure competitive market practices. Mckenzie Bezos might be doing important work in giving away much of her wealth, but one must ask how it was that Amazon generated so much money for its owners while its workers suffered through stagnant wages and harmful working conditions. Mr. Buffet earned much of his wealth through the compounding of his initial equity holdings, but the widespread financialisation of the U.S. economy – concomitant with the reduction in the power of unions and stagnant wage growth – greatly aided this process.

In the face of rising inequality, societies face a choice: to either do nothing and hope that private charity increases, or devise policy to counter the negative effects of rising wealth concentration. Thomas Piketty advocates for a system of taxation and redistribution backed by the State to ensure equalisation of opportunities, rather than relying on private philanthropy. Interventionist thinkers and those on the left advocate for higher minimum wages and constraints on billionaire compensation. The use of state policy ensures that one does not have to rely on billionaire conscience to ameliorate the very processes that gave rise to their wealth in the first place.

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THE GIST

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- Differences in opportunities are not merely a question of luck, but of specific policy choices and interventions. Bill Gates' and Jeff Bezos' wealth came from the monopolies they enjoyed in the marketplace; this is less luck than the failure of policy to ensure competitive market practices.

What is the delay in forming a government in Austria?

Why are Austria's mainstream parties refusing to enter into a coalition with the far-right Freedom Party? Why did the Austrian President refuse to invite the FPO to lead the country?

Garimella Subramaniam

The story so far:

The Austrian chancellor Karl Nehammer's ruling People's Party (OVP) has inched closer to heading Vienna's next coalition government. The party was the runner-up in the September 29 elections and its vote slump, compared with the 2019 polls, was the biggest loss any ruling party has sustained. The OVP's prospective coalition partner, the Social Democrats (SPO) put up their worst ever electoral showing since World War II. Conversely, the far-right, xenophobic, Eurosceptic, anti-Muslim and pro-Russian Freedom Party (FPO), emerged the largest entity, albeit without a majority.

Why is the FPO being shunned?

All of Austria's mainstream parties have refused to form a government with the FPO. The only ground the ultra-right party has gained since the polls is the election of one of its members as the parliament's speaker. Among the reasons for parties' antipathy towards the FPO are the latter's backing for Russia in its full-scale aggression against Ukraine. The FPO has veered further to the extreme right under its current leader Herbert Kickl, who styles himself as the 'people's chancellor,' in a not so oblique reference to Adolf Hitler, and regards Hungary's autocratic President Viktor Orban as his role model. As interior minister in the short-lived 2017-2019 OVP-FPO coalition government, Mr. Kickl shut down mosques in a crackdown against the "Islamisation" of Austria. His infamous raids on the nation's intelligence services severely compromised collaboration with international agencies. He continues to advocate for the re-migration of citizens of foreign origin as part of the mission to create a homogenous Austrian society.

Why is FPO not forming the govt.?

Departing from convention, the Austrian President Alexander Van der Bellen opted not to invite the FPO to form a government, even though it had emerged the largest party in the parliament's lower house. President Van der Bellen has previously stressed that the practice hitherto followed by the head of the state was a tradition, not a requirement under the Austrian constitution. As such, on October 9, he gathered the three largest parties in the new legislature in an effort to facilitate consultations on the prospects for a new government. With no signs of a resolution, he tasked chancellor Nehammer with the responsibility.

The President has indicated definite red lines that ought not to be crossed under his watch by any government. Most notable of these is Vienna's European Union (EU) membership, which the FPO has steadfastly opposed.

What explains the FPO's appeal?

The FPO has participated in three federal governments since the 1980s. There was a minor ripple across Europe at the turn of the century, when the FPO's Jorg Haider joined a ruling alliance with the OVP, as EU capitals threatened bilateral boycotts on the country. However, in a measure of the far-right's greater acceptability in Austria and across the EU, the reaction to the party's cohabitation in a coalition with the OVP between 2017-2019 was markedly muted. The FPO's growing appeal has much to do with popular disenchantment with decades of centrist coalitions, a Europe-wide phenomenon, which in the aftermath of the Holocaust, was seen as a bulwark against political extremism. In reality however, the OVP and SPO coalitions have over the years been tainted with divvying up key positions in government and business between themselves.

The prospective coalition among the OVP, SPO and the liberal NEOS will undoubtedly have its share of ideological differences to contend with. The longer they take to strike a deal, the greater the potential within the FPO to pressure its leader Mr. Kickl to step aside to allow the party to join a coalition with the OVP.

The writer is Director, Strategic Initiatives, AgnoShin Technologies.

THE GIST

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Death by water

Governments need to ensure safety of piped water while widening coverage

As policymakers prioritise universal access to potable water, the death of three persons last week in Chennai due to suspected consumption of contaminated piped water is a reminder that coverage is not the only problem: even urban centres with a long history of piped supply are still not assured of potable water that is free from dangerous contamination. The incident, which involved drinking water supplied through the State agency in suburban Pallavaram, also sent 34 people to hospital with complaints of diarrhoea. The laboratory test reports of local water samples are yet to be made public, and it may be too early to blame the agency. Nonetheless, the remarks of State Minister T.M. Anbarasan, accusing the affected people of not maintaining hygiene in their surroundings, come across as insensitive and irresponsible. Irrespective of the cause, it is concerning that severe contamination of water continues to occur with greater periodicity in cities in India. In the past six months, large-scale outbreaks of health episodes due to consumption of water containing *E.coli* have been reported in cities including Bengaluru, Kochi, Noida and Vizianagaram. This exposes the challenge of catering to the basic needs of people, who are increasingly shifting to cities and living in congested environs, putting the water and drainage infrastructure under strain.

Governments face a challenge in providing safe drinking water in a tropical country such as India. Data from the Jal Shakti Ministry show that arsenic has been detected in groundwater in parts of 230 districts in 25 States and fluoride in 469 districts in 27 States. In 2022, according to the World Health Organization, at least 1.7 billion people, globally, used a drinking water source contaminated with faeces. Worldwide, an estimated one million people die annually from diarrhoea caused by unsafe drinking water, sanitation and hand hygiene. In 2010, the United Nations General Assembly had explicitly recognised the human right to water and sanitation. Towards this end, addressing the issue of chemical pollution of groundwater is also non-negotiable. Tamil Nadu Chief Minister M.K. Stalin is cognisant of this. Ahead of the last Assembly elections, he had unveiled his 10-year vision statement for seven priority areas to facilitate development of Tamil Nadu. This included promises to increase the annual per capita drinking water supply from nine lakh litres to 10 lakh litres; reduce wastage of water from 50% to 15%; and increase distribution of recycled water from 5% to 20%. Now, he needs to walk the talk, especially in terms of supplying safe drinking water.

Miles to go

Telangana's challenge is to focus on welfare amid a fiscal crisis

A year is too short a time to assess a government's performance, but it is still long enough to ascertain its commitment to fulfil its promises. The first Congress government in Telangana led by Chief Minister A. Revanth Reddy rode on the back of six guarantees, with a focus on widespread corruption allegations against Mr. Reddy's predecessor, K. Chandrashekar Rao, who was perceived as being inaccessible and lording over a family-run fiefdom. The guarantees were directed at women, farmers, youth, and the elderly, aiming to enhance disposable incomes, social securities, and to provide employment. They range from providing ₹2,500 a month for women who are heads of below-poverty-line families, to doubling retirement pension for the disabled, and the poor among the elderly. A year on, some of these measures implemented include free public transport for women and increased medical insurance cover per family of up to ₹10 lakh, as well as fiscally expensive decisions such as 200 units of free power per household and writing off farmers' loans up to ₹2 lakh.

Some of the unfulfilled measures include raising input support for farmers from ₹10,000 annually – provided by the predecessor Bharat Rashtra Samithi (BRS) government – to ₹15,000, and filling two lakh government job vacancies. The government has cited a fiscal crisis caused by the Chandrashekar Rao government as the reason for this. Days after Mr. Reddy was sworn in on December 7, 2023, his government released a "white paper on the State's finances", which detailed a "more than ten times" jump in Telangana's debt from ₹72,658 crore to over ₹6.71 lakh crore under the 10 year-long reign of the BRS, and that debt servicing alone constituted more than a third of the State's budget, leaving "very little fiscal space" to implement the Congress guaranteed welfare measures. Since Mr. Reddy rode to power on the popular sentiment of familial corruption, judicial commissions have been set up to probe financial malfeasance in projects ranging from the Kaleshwaram Lift Irrigation Scheme to the power purchase agreement with Chhattisgarh. Mr. Reddy has also accused the Bharatiya Janata Party-led Union government of giving the State short-shrift in tax devolutions and the implementation of centrally funded projects. One promise that Mr. Reddy has worked on is the conduct of a caste census. While it has run into controversy, with complaints of a duplication of information provided to the earlier government, the outcome of the survey and the changes to reservations in government jobs and employment are being keenly watched. Mr. Reddy's hurdles are daunting, but what appears to be lacking is a transparent plan and a candid admission on what to expect, given the situation, over the next four years.

A good beginning but China negotiations must continue

Ashok K. Kantha

a former Ambassador of India to China, now associated with think-tanks

The statement made by Union External Affairs Minister, S. Jaishankar on December 3, 2024 was his first substantive statement in Parliament on developments in India-China relations since the Chinese intrusions in Eastern Ladakh in the summer of 2020. His remarks offer clarity on some issues, but many questions remain unanswered.

The Minister's statement

There are several takeaways from the Minister's statement.

First, the Minister recalled the amassing of troops by China, India's forceful counter deployment, and protracted negotiations, resulting in a disengagement of forces. However, the statement is economical in giving details of the arrangements for disengagement from "friction points" (a recent and inapt coinage in India-China border negotiations to describe areas of Chinese transgressions across the Line of Actual Control, or LAC). Without using the term "buffer zones", the Minister alluded to the construct when he remarked that in a few places where "friction" occurred in 2020, "steps of a temporary and limited nature were worked out, based on local conditions, to obviate the possibility of further friction". He said, "This ... applies to both sides and can be revisited as the situation demands." He flagged disengagement of troops as "an immediate priority", but no such urgency has been attached to the termination of "steps of a temporary and limited nature".

Second, even while stating that the immediate priority of disengagement has been achieved, he made it clear that more work remains to be done on "de-escalation as well as effective management of our activities in the border areas". He reiterated India's consistent position that "the maintenance of peace and tranquility in border areas is a pre-requisite for the development of our ties", a critical linkage China has sought to disavow in recent years. Mr. Jaishankar did not suggest that the border areas have returned to a state of normalcy. That cannot be the case when there is continued large-scale deployment of troops of both countries for the fifth consecutive winter season in forbidding terrain.

Third, he did not suggest a major forward movement in overall relations, indicating instead that recent developments have set our ties in the direction of "some improvement" and adding that the conclusion of the disengagement phase "allows us to consider other aspects of our bilateral engagement in a calibrated manner, keeping our national security interests first and foremost". The Minister has done well to pour cold water on the suggestion from certain quarters about a "reset" in India-China relations. It is naive to think of any major improvement in bilateral ties as long as the borders remain abnormal and a host of structural challenges in the relationship persist. It is intriguing that even some senior government functionaries are proposing integration with Chinese supply chains, disregarding the imperative of economic security *vis-à-vis* a country with a track-record of weaponising economic dependencies, which unfortunately abound in India's engagement with China.

While the External Affairs Minister's remarks offer some clarity, politically, there needs to be an attempt to arrive at a broad consensus on India's China problem

Key questions

The statement in Parliament leaves several core questions unanswered.

First, while disengagement is pronounced as completed, India does not have any definitive information on the terms of this exercise. The statement mentions that the "resumption of patrolling to the traditional areas is underway" in Depsang and Demchok. Will this involve Indian troops getting unhindered access to five traditional patrolling points beyond Y-Junction in Depsang Plains? In Demchok, will they be able to resume patrolling to Charding La and Charding Nala - Nilung Nala (CNN) junction which they were visiting earlier? How deep on the Indian our side of the LAC will the Chinese patrols be allowed to come?

There is talk of "coordinated patrolling", which is a new and undefined concept in India-China border management. Will there be restrictions on the size and frequency of India's patrols? What are "steps of a temporary and limited nature" agreed to elsewhere, in the Galwan Valley, Hot Spring, Gogra and the Pangong Lake area? How many of India's traditional patrolling points are no longer accessible to its troops (and grazing grounds to Indians graziers) because of these "temporary steps"? These are legitimate questions awaiting answer.

Second, the Minister has underlined that the Indian side "would not countenance any attempts to change the status quo unilaterally". However, has not the status quo along the borders been changed by China since April 2020? In the absence of facts being shared in the public domain, we can only speculate. This writer's discussions with retired senior military officials who have served in Eastern Ladakh suggest that there is denial of access to several traditional patrolling points under new arrangements.

The statement referred to earlier governments having agreed to several steps to defuse situations, including offers to create demilitarised zones (DMZ), limited non-patrolling zones, and so on. The point to note is that the way India and China look at the LAC has changed. Under President Xi Jinping, China considers the LAC within the construct of sovereignty and the mindset of not losing an inch of territory, though the concept of the LAC was agreed to without prejudice to the respective positions of India and China on the boundary question.

Unfortunately, this alteration of the LAC by China or through "temporary steps" has territorial implications for India. We will, therefore, be well-advised to terminate the so-called "buffer zones" at the earliest and keep insisting on the restoration of status quo ante in patrolling and grazing activities as a matter of high priority.

Besides, there was no understanding on establishing a DMZ either in Barahoti or in Sumdorong Chu Valley as suggested elsewhere. This writer was the Indian lead in the Diplomatic and Military Experts Group which negotiated the disengagement in Sumdorong Chu Valley in 1995. We did not agree to any DMZ or restrictions on Indian patrolling. Earlier, on Barahoti, the two sides could not agree on the extent of the area where a DMZ was proposed by China in 1956.

Third, there are reports in credible media outlets (including *The Hindu*) about Chinese troops being allowed to patrol Yangtse in Arunachal Pradesh. Earlier reports had cited "government sources" as saying that the Chinese demands for patrolling Yangtse were "unreasonable" and "devoid of logic". Chinese troops have repeatedly attempted to access the Yangtse area but their efforts have been foiled by Indian forces, the last reported instance being in December 2022. If there is no quid pro quo in the Eastern Sector, it must be denied authoritatively.

Fourth, the Chief of Army Staff has reiterated even after the announcement of the understanding on disengagement in Depsang and Demchok on October 21 that "we want to go back to status quo of April 2020". However, the Ministry of External Affairs no longer refers to the restoration of the status quo ante. If we acquiesce in facts on the ground changed to the advantage of China, this will be another example of a successful deployment of the Chinese playbook of grey zone operations which involves making incremental gains while staying under the threshold of an outright military conflict.

Bridge the political divide

Greater transparency on the part of the government on the one hand and the need for the Opposition resisting the temptation to score points on a sensitive issue affecting our core interests on the other will leave us in a better place in India's border negotiations with China. This writer recalls that after India had completed negotiations on the Agreement on Confidence Building Measures in the Military Field (November 1996) and the Agreement on the Political Parameters and Guiding Principles for the Settlement of the India-China Boundary Question (April 2005), he was instructed to brief key Opposition leaders in confidence. Not only was the confidence thus reposed not breached by those leaders, but they also appreciated the government's gesture, understood the rationale of those sensitive agreements and supported them after they were signed.

Can we make an honest attempt to pivot towards a broad consensus on India's China challenge, even while leaving room for articulation of differences?

The issue of India's economic growth versus emissions

Badri Narayanan Gopalakrishnan

Visiting Senior Fellow, Centre for Social and Economic Progress (CSEP)

Shifali Goyal

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The Indian economy has consistently showcased its robust growth over the past few decades. But higher economic growth is believed to have come with increasing environmental pressure, notably through higher greenhouse gas (GHG) emissions. However, India's Economic Survey (2023-24) claims that India has decoupled its economic growth from GHG emissions, as between 2005 and 2019, India's GDP grew at a compound annual growth rate (CAGR) of 7%, while emissions rose at a CAGR of just 4%. This raises a crucial question: has India really decoupled its economic growth from GHG emissions? And, what does this mean for sustainable development?

What it means

Decoupling refers to breaking the link between economic growth and environmental degradation. Historically, economic growth is found to be positively related with environmental degradation, as this growth is believed to be a driver of GHG emissions. However, with the growing climate crisis, the imperative to reduce emissions while ensuring continued economic growth has gained global traction.

Decoupling has largely been classified into two types: absolute decoupling and relative decoupling. Absolute decoupling occurs when the economy grows, while emissions decrease. This is the ideal form of decoupling, where countries grow economically without increasing environmental harm. However, relative decoupling happens when both GDP and emissions grow, but the rate of GDP growth surpasses the rate of emissions growth. While this signifies progress, at the same time, it acknowledges that emissions continue to rise.

Decoupling of economic growth and GHG emissions is important. On one hand, it offers a path to sustainable growth and development, a way for nations to grow and improve living standards without exacerbating climate change. On the other, it comes as a response to rising demand for degrowth and sparks the ongoing debate between green growth and degrowth. Proponents of green growth argue that it is possible to maintain or even increase economic growth while reducing environmental harm. In contrast, degrowth advocates suggest that economic growth itself is the primary driver of ecological degradation and should be curbed in favour of reducing resource consumption. But proponents of degrowth overlook the fact that countries, in addition to tackling rising GHG emissions and the climate change, are also required to tackle low standards of living, energy poverty and ensure a decent life, which could be taken care of through economic growth.

A look at the claim made in the Economic Survey (2023-24), of India having decoupled its economic growth from greenhouse gas emissions

The claim

The claim of India's decoupling made in the Economic Survey comes from comparing GDP and emissions growth rates between 2005 and 2019. The Survey does not specify whether this represents absolute or relative decoupling. Using various decoupling indicators discussed in OECD (2002), we examine the status of the economy-wide and sector-wise decoupling status for India. Since the 1990s, with significant trade liberalisation, India has been experiencing steady and stable economic growth. Hence, we are examining how GDP and emission generation are growing in India with respect to the levels of 1990. While there has been no absolute decoupling in India, since 1990, GDP in India has grown at a much higher pace than the GHG emissions in the country, indicating economy-wide relative decoupling. Since, the agriculture and manufacturing sectors are among the major contributors of emission generation in India, it is also important to understand whether these sectors have also achieved decoupling or not, which has been assessed by comparing rate of growth of GVA of the respective sector with the rate of growth of GHGs emitted by the sector. From 1990, India's GDP has grown six-fold, while GHG emissions have only tripled.

Efforts must continue

From the data, it seems that India may have achieved relative decoupling, where emissions are still rising but at a slower pace than the economy. This achievement, while commendable, falls short of the ultimate goal of absolute decoupling, where economic growth can continue even as emissions fall. While most countries fall short of achieving absolute decoupling and still experience rising emissions as GDP increases, many countries have at least managed to achieve a declining rate of growth of emissions. Given that India is a developing country which has not even peaked its emissions yet, emissions are expected to increase with economic growth. Hence, achieving absolute decoupling is not going to happen anytime soon. While India's relative decoupling is a step in the right direction, the path to absolute decoupling is still a long and complex journey. Efforts must still be taken and it will be a significant challenge. This remains a necessary target if India is to meet its long-term climate commitments. Policies and measures that support renewable energy, emission mitigation, and sustainable development will be crucial in ensuring that economic growth and environmental preservation can coexist, ensuring a prosperous and sustainable future for India.

The views expressed are personal

LETTERS TO THE EDITOR

State Department as target

While accusing the Congress and, more particularly, the Leader of the Opposition of being in cahoots with "deep state" actors in trying to derail India's success story, the BJP has dragged in the U.S. State Department. That the government of the day can go to this extent of jeopardising our bilateral ties with the U.S., which could only damage a multifaceted partnership built over the years, appears to show its desperation in trying to shield a certain businessman. It is certainly not smart diplomacy.

S.K. Choudhury,
Bengaluru

Notes in the House

It is curious and surprising how a wad of currency notes could 'safely' land on the seat of an Opposition party member in Parliament. How could the monitoring and security systems fail to detect the object when it was taken inside the high-security Parliament building? Only a comprehensive investigation by a specialised agency will be able to unravel the truth. If it is the handiwork of vested interests, it is nothing but highly reprehensible conduct, which merits deterrent action.

V. Johan Dhanakumar,
Chennai

In Adelaide

The annihilation of India in the Adelaide Test leaves behind serious points to ponder. Virat Kohli's sterling show in Perth now looks like a flash in the pan as his weakness outside his off-stump against genuine pace has been exposed for the umpteenth time. Rohit Sharma's reflexes have slowed down considerably that he looks out of sorts in whichever position he bats. His poor footwork gets him into trouble too often. Other Indian batters needlessly go hammer and tongs courtesy the limited over cricket. Ravichandran Ashwin is no longer a force to reckon with especially against batsmen who are prepared to be aggressive. Travis Head demonstrated that. It is naive to argue that Indians played inept cricket. Their technical inadequacies were exposed. It is not for nothing that the Australians are highly ranked in international cricket.

V. Lakshmanan,
Tirupur, Tamil Nadu

CACHE

Should AI be blamed for sporadic layoffs in Big tech?

Thomas Monteiro, lead analyst at Investing.com, says, 'AI hasn't yet grown good enough to replace the bulk of human workers end-product-wise. However, what it did do is change companies' priorities'

Poulomi Chatterjee

During Alphabet Inc.'s September-ending earnings call on October 29, CFO Anat Ashkenazi told investors that the company wants to tamp down costs, noting it would mostly be on how it operates and runs its business. The following day, worried Googlers sought more details at a company's all-hands meeting. CEO Sundar Pichai stuck to a similar refrain, without giving a direct yes or no to questions around layoffs. Mr. Pichai said efficiencies in headcount could also mean reallocation of human resource to streamline teams.

"When you're doing something new and it's going to take 10 people, if you are able to do it with eight people by making smart trade-offs somewhere, that's a good example," he noted. While Ms. Ashkenazi reassured that people are "one of the most important" assets to the company, Mr. Pichai did not wave off the possibility of layoffs. "If we are making company-wide decisions, we'll definitely let you know," he said. Google's head of recruiting, Brian Ong, added that it was a reality that the search giant was tightening hiring, and that workers would find fewer open positions.

Like other tech companies, Alphabet is overhauling its business processes with AI while fending off pressure from investors. Bank of America analysts had warned in June, post Ms. Ashkenazi's appointment as the new CFO, that there was "potential for the company to 'surprise' with further self-help cost cutting actions after limited layoffs in 2024."

Google is a microcosm of the transformation happening in many other tech firms. Employees at Big Tech companies have seen a steady stream of layoffs. Last year alone, based on various reports, nearly a lakh tech workers lost their jobs in just U.S.-based tech companies.

This year, Google laid off more than 200 employees from its core engineering teams in May. During a previous internal meeting, Mr. Pichai said the constant layoffs were necessary to "improve velocity" of the company. The Silicon Valley giant slashed hundreds of staff from their cloud unit, sales and engineering teams again in June. In October, Meta started making similar small cuts across various segments including WhatsApp, Instagram and their Reality Labs division. This followed layoffs in done earlier in June.

Meanwhile, in Amazon, CEO Andy Jassy said in September that he would restructure the e-commerce giant in a way that the ratio of individual contributors to managers increased by 15% by March 2025. A Morgan Stanley report estimated that this could mean eliminating around 13,834 managerial positions resulting in cost savings of between $2.1 billion to $3.6 billion. The company also announced a strict five days a week return-to-work policy starting from 2025. Disgruntled employees were convinced that this was a backdoor layoff tactic. Although Mr. Jassy denied this later, at an all-hands meeting days later, Matt Garman, CEO of Amazon Web Services said that displeased employees who were averse to the policy were free to seek employment elsewhere. Amazon also keeps closing down units in smatterings. In late October, it shut down its speedy brick-and-mortar delivery service called Amazon Today. A couple of weeks ago, it phased out its free-to-watch streaming service, Freevee.


GETTY IMAGES

Microsoft laid off around 2,000 employees in its gaming unit, months after acquiring Activision Blizzard. Two other rounds of cuts were done consecutively in June and July in Azure's product and programme management segments. LinkedIn, owned by Microsoft laid off 200 employees unceremoniously just last week.

Is AI just a ruse?

How much of the blame can truthfully be placed on AI deployment? "This is a correction for a decade-long trend of over hiring in the sector. As easy capital went to the side-lines in 2022, it has become more difficult to start new tech companies and that takes away tech jobs," explained Aswath Damodaran, Professor of Finance at the Stern School of Business at New York University.

"This is not really about AI, though you may be tempted to make it so. Most of the tech layoffs are happening at places that hired well before AI was even a glimmer in the market's mind. This is a story of accountability eventually catching up at young tech companies that sold themselves on potential but have never have been able to monetise it," he noted.

But even if it is a natural comedown, investors are now forced to reckon with the sky-high AI expenditures coupled with a long road before seeing any profitable returns.

Big Tech's large capex

According to *Visible Alpha*, Microsoft will spend over $80 billion in the current fiscal year, which is a jump of more than $30 billion from the previous year. The Redmond, Washington-headquartered company also predicted slower growth for its cloud segment in the quarter. Mr. Zuckerberg also pegged "significant acceleration" in costs to the pace with which Meta was building data centres and AI infrastructure. The company raised the low end of its capital expenditures guidance for 2024 to $38 billion from $37 billion after its earnings report, with the higher limit still at $40 billion. Alphabet reported $13 billion in capital expenditures in the third quarter, and CFO Ashkenazi is intent on keeping it the same in the fourth quarter.

Meanwhile, Andy Jassy said he plans to spend $75 billion on capex in 2024 and expects an even bigger number in 2025. Mr. Jassy told investors that GenAI "a really unusually large, maybe once-in-a-lifetime type of opportunity," reassuring shareholders they would feel good " in the long term."

During the early days of AI, many thought that their jobs will be replaced.

Thomas Monteiro, lead analyst at Investing.com, points out that, "Saving a few specific sectors, AI hasn't yet grown good enough to replace the bulk of human workers end-product-wise. However, what it did do is change companies' priorities, meaning that these are rethinking how they allocate their resources, more than often taking the risk of replacing several otherwise essential workers for a highly disputed, expensive AI specialist."

Labour force inflation and lack of clarity on how to monetise AI is also "forcing companies to figure out ways to become more efficient. But if they can't cut from the expenses side because the competition will run them over once they figure out the AI game, what's left? Well, only further reductions," he added.

The market has been ruthless to companies that ignored the clarion call of AI at the opportune moment. Intel, a Silicon Valley icon, announced it would be laying off 15,000 employees earlier in August to accommodate a $10 billion savings plan after it became obvious that the company had gotten left behind in AI. To add insult to injury, the company was replaced on the Dow Jones Industrial Average index in November by Nvidia, a company that Intel tried to buy two decades ago.

Although the rate of tech layoffs have somewhat slowed, they haven't fully stopped as tech companies are shedding employees wherever they see fit. "In a sense, layoffs are unavoidable," Mr. Monteiro said. "Companies will always have a choice, and historically, we've seen companies challenging the status quo to reach good results by thinking outside the box. However, we currently live in a world where shareholder value is just as important as consumer value, and no one is willing to take the risk."

KNOW YOUR ENGLISH

The ending of the film was quite climactic

Both of them have not said a word since the event. Guess the cat got their tongues

S. Upendran

What is the origin of the expression 'has the cat got your tongue'?

There are quite a few expressions in which the cat is the star – 'let the cat out of the bag', 'a cat has nine lives', 'look what the cat dragged in', 'it's raining cats and dogs', etc. The idiom 'has the cat got your tongue' is used in informal contexts. When you pose this question to someone, you wish to know why the individual is choosing to remain silent? Why isn't he speaking up? The expression, at times, is used to indicate annoyance.

You're unusually quiet this morning. What's the matter? Cat got your tongue?

Although there are several theories about the origin of this idiom, nobody is really sure about its exact origin. According to some scholars, it comes from a practice followed by ancient Egyptians. In the past, when someone was caught lying, the individual's tongue was immediately cut off, and fed to the cats! Another theory making the rounds is that the 'cat' in the expression does not refer to the animal, but to the whip that the captain of a ship used on his crew. The whip was called 'cat-o'-nine-tails', and it was usually shortened to 'the cat' in everyday conversation. After being whipped by the cat, sailors were in too much pain to speak; they remained silent.

Which is correct: remanded to/in/into custody? (K. Shanmugam)

We usually come across these expressions when we read a report in a newspaper about some crime committed. When the suspect or accused is 'remanded in custody', the judge decides to keep him in jail till the trial begins.

The protesting students have been remanded in custody.

Dictionaries and books on usage do not list 'remanded to' or 'remanded into' as a possibility. If the judge grants the suspect bail till the commencement of the trial, then you talk about the individual being 'remanded on bail'.

As expected, the two politicians were remanded on bail.

What is the difference between 'climactic' and 'climatic'?

The two words consist of three syllables each; the first syllable in both rhyme with 'fly', 'sly' and 'ply'. The vowel in the second syllable sounds like the 'a' in 'cat', 'bat' and hat', while the final syllable is pronounced like the word 'tick'. The only difference between the two words is the manner in which the second syllable is pronounced; in the case of 'climactic', it sounds like the word 'mack'. The word is pronounced 'kly-MACK-tic'. 'Climatic', on the other hand, is pronounced 'kly-MA-tic'. As for the meaning, 'climatic' is related to the word 'climate', while 'climactic' comes from the word 'climax'.

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THE DAILY QUIZ

Please send in your answers to dailyquiz@thehindu.co.in

With a dramatic turn in the Syrian war, a quiz on the more than a decade long conflict

Srinivasan Ramani

QUESTION 1

Prior to his assassination, this military leader of Iran's elite Quds Force played a major role in training fighters in support of the long-serving Syrian President Bashar al-Assad. Name him.

QUESTION 2

What do the Syrian Kurds call the de facto autonomous region in northeastern Syria that is now under their control?

QUESTION 3

Name the rebel force that was trained by the United States, and composed of Syrian Arab Army defectors that is now in control of territory near Syria's border with Iraq and Jordan.

QUESTION 4

Which ethno-religious group is Bashar al-Assad, the de jure ruler of Syria, affiliated to? What stream of Islam is it an offshoot of?

QUESTION 5

This intellectual, a Christian by birth, is considered a major influence in the development of the Ba'athist movement — the Assad regime still professes a divergent variant of it. Name him.

Visual question:

The key leader behind the dramatic rebel advances in Syria in recent days is also said to have been hand picked by Islamic State leader Abu Bakr al-Baghdadi to establish a branch of the al-Qaeda in Syria. He now distances his organisation from al-Qaeda. Name him. AFP

Questions and Answers to the December 6 edition of the daily quiz: 1. This liberal was once Chairman of the Chinese Communist Party and his death triggered protests against the corrupt one-party rule. **Ans: Hu Yaobang**

2. This Irish officer who ordered martial law in most parts of a particular region in India was assassinated by this revolutionary. **Ans: Michael O'Dwyer; Sardar Udham Singh**

3. In 1978, in this horrific event, security forces fired on a large protest at Jaleh Square killing at least 100 people. **Ans: Black Friday**

4. In the 1900s, Hawaii spent three years under martial law after this incident since military officials doubted the loyalty of at least one third of these residents. **Ans: The bombing of Pearl Habour; the residents were of Japanese descent**

5. This country has been under martial law since 2022. **Ans: Ukraine**

Visual: Name this Chief of Army Staff. **Ans: Zia ul Haq**

Early Birds: Tamal Biswas| Dodo Jayaditya| Piyali Tuli| Sonali Das| Sumana Dutta

Word of the day

Capacitate:

make legally capable or qualify in law; make capable

Synonyms: qualify

Usage: *This instruction capacitates us to understand the problem.*

Pronunciation: newsth.live/capacitatepro

International Phonetic Alphabet: /kəˈpæsɪteɪt/

For feedback and suggestions for Text & Context, please write to **letters@thehindu.co.in** with the subject 'Text & Context'

Whither Nifty This December?

MARKETMUSINGS

Vikas Dhoot

It has been a tumultuous couple of months at the Indian bourses. After hitting a record high of 26,277 points on September 27, the broad market benchmark NSE Nifty had tumbled 11.5% to a little over 23,000 points by November 21.

This was the longest secular losing streak for the top 50-shares' market gauge since June 2022. A lot of factors appeared to be pulling down Dalal Street momentum, including the surprisingly weak second quarter results for listed Indian firms, foreign investors recalibrating portfolios towards China as it sought to stimulate its way through a rough patch and anticipated adverse implications for world trade after Donald Trump won his way back to the White House.

November 21 also marked the day the markets got to know about an U.S. Court indictment of some Adani Green Energy officials after a Department of Justice probe into allegations that included securities fraud, wire fraud as well as bribery, with civil charges separately initiated by the U.S. market regulator.

In the eleven trading sessions since then, or between November 22 and December 6, the tide has shifted - with the Nifty gaining in nine of the 11 sessions. By last Thursday, just a day ahead of the bi-monthly monetary policy review of the Reserve Bank of India (RBI) that came in the backdrop of rising inflation and a confirmation of the second quarter growth stumble by official data released November 29, the Nifty-50 was at a seven-week high of 24,708 points.

This means the Nifty is still about 6% off its peak, but the rebound rally has bought some respite to nervous traders. The market seems to have shrugged off both the shock of slowing economic growth, and the RBI's decision to withstand a rising domestic clamour for interest rate cuts and keep the repo rate unchanged, even as the U.S. Federal Reserve and other central banks have been slashing rates for a bit now.

Market experts say the growth slump had already been priced in over the previous weeks' losing streak, and the RBI's policy was hardly a surprise, with October's inflation spiking to 6.2%, and November unlikely to report a dramatic cooling. That perhaps explains the mere 0.1%, or 30 points, drop in the Nifty last Friday after the RBI policy was unveiled.

The Nifty is up 13.5% so far in 2024, and as the year draws to a close, what should investors expect in its last few weeks of trading?

In a report titled 'Nifty: At The Crossroads', Axis Securities dug into the past for a clue. In the past 25 years, the Nifty went up 80% of the time between Nov. 25 and Dec. 31, with average and median returns of 4.1% and 2.2%, respectively. The probability of an uptick shoots up to 100% in the years of U.S. Presidential polls, with mean and median returns of 5.8% and 6.8%, respectively.

Bajaj Broking researchers also termed December one of the best months for the Indian market with the Nifty rising in 17 of the last 24 years. Based on historical patterns and current market analysis, the firm expects the markets will do well this month, and the Nifty could target levels between 24,800 and 25,200.

As of December 6, the index is up 3.2% starting from the Nov. 25 trading session, and 2.2% in this month so far. Of course, past performance is no assurance but if the last 24-25 years' trend holds, there may well be some upside left for the Nifty in 2024.

While investors would hope for a Christmas bonus, Bajaj Broking has warned volatility could be higher this month thanks to domestic and global cues, like the U.S. Federal Reserve's next rate move expected a week before the festival. So keep calm but watchful as you prepare to ring out the old. As for ringing in the new, the prospects for 2025 may hinge a lot on Mr. Trump's action plan for the year (not to be confused with Project 2025 just yet). Enjoy 2024, till stocks last!

Send queries on personal finance and investing to the moneywise@thehindu.co.in ID. Our experts in personal finance will respond to select queries, but will not give specific recommendations for investment in a particular mutual fund, share or fixed deposit.

Smart pick: You can choose a medical cover that aligns with your needs and budget. GETTY IMAGES/ISTOCK

Practical ways to make health cover affordable

By keeping a few simple tips in mind, you can make health insurance more affordable without compromising on quality; affordable doesn't mean settling for less, it means making smart choices

HEALTHIER CHOICE

Siddharth Singhal

As the cloud of uncertainty looms over people across Indian cities owing to pollution and other health hazards, it is imperative not just to secure health and also ensure financial stability. After all, as the saying goes, health is wealth. But due to a lack of awareness, many people make the mistake of dismissing the need for health insurance.

Health insurance is a critical investment. However, it hardly means it has to cost a bomb – most certainly not if you know some feasible ways to make it affordable without compromising protection. Here are some practical tips to help save on premium without compromising on your essential needs.

> A high CIBIL score can fetch discounts on premiums; a good financial history not only lowers EMI payments but can also reduce premiums by up to 15%

> Purchasing health insurance early in life is a wise decision; policies are cheaper when you're younger and healthier, and you lock in age for the future

Compare prices online

Compare health insurance plans and choose the right plan for yourself. Use online tools to evaluate prices, features and network hospitals. Remember, different insurers price the same risk differently. For instance, a slightly higher premium plan with an extensive hospital network might suit you better during emergencies.

Also, do not hesitate to reach out to a financial advisor who is equipped to give you the right advice.

Keep an eye on your CIBIL score. Yes, you read that right. A high score can fetch discounts on premiums, as insurers consider you to be a lower-risk customer. A good financial history not only lowers EMI payments but can also cut premiums by up to 15%. It's an easy way to save money, especially if you already manage your finances well. It's a mutually beneficial deal for both the parties.

Premiums into EMIs

If paying the entire premium upfront is difficult, consider EMI options offered by many insurers. For example, instead of paying ₹20,000 annually, you could opt for monthly payments of about ₹1,600. This makes it easier on budget while allowing you to choose a more comprehensive plan that might otherwise feel out of reach. EMIs are a popular payment option for almost anything today, make the most of it to get the health insurance policy you want.

Save via modular plans

New-age modular plans let you save considerably by customising your plan as per your needs. Consider opting for a deductible or co-pay. This means you'll pay out-of-pocket during claims, but your premium will be lower. If you're healthy and don't foresee frequent hospital visits, this can be a cost-effective choice. It's a smart way to save in the long term while staying prepared for unforeseen events. This makes sense to even senior citizens who might face higher premiums. For instance, you opt for a ₹25,000 deductible and get a 25% discount for a premium of ₹50,000, so you end up saving ₹12,500. Now, if you don't claim for two years, you have already saved ₹25,000 on account of lower premium. This also applies to customers who have a corporate health insurance policy. Also, if you opt for a hospital in your insurer's preferred partner network, you stand to save up to 15% in premiums.

Cumulative bonuses

Cumulative bonus lets you increase your sum insured even if you end up making a claim during the policy year. This is different from NCB or no claims bonus that rewards you for not making a claim. Over time, this can significantly enhance your coverage while keeping costs steady. Let's say you have a sum insured of ₹10 lakh and gain a 10% cumulative bonus every year. In 10 years, the cumulative bonus of ₹10 lakh can potentially be accumulated and make the sum insured just double.

Buy early

Purchasing health insurance early in life is a wise decision. Policies are cheaper when you're younger and healthier, and you lock in age for the future. It also ensures coverage before any health issues arise, which could otherwise lead to higher premiums. Not to forget, some insurers apply risk-based loading, especially in case of adverse medical history. This is something you can easily avoid if you buy while you're young and healthy in early years.

Also, this is where something called wellness benefit kicks in. You stay healthy and fit, meet the insurer's criteria and get up to 100% discount upon renewal. You can make the most of this feature if you opt for a plan early in life.

By keeping these simple tips in mind, you can make health insurance more affordable without compromising on quality. Affordable doesn't mean settling for less; it means making smart choices that align your needs and budget.

(The writer is head, health insurance, Policybazaar.com)

Pooling funds for F&O trade

THINKINVESTOR

The objective of pooled funds can be exploring avenues for retail traders to access the futures and options (F&O) segment, while allaying the market watchdog's concerns about excessive speculation

Venkatesh Bangaruswamy

The following discussion is just food for thought, based on recent measures from the stock market regulator SEBI to curb speculative activity in the futures and options (F&O) segment. One of these was to increase the instruments' contract value from ₹5 lakh to ₹15-20 lakh, making it tougher for retail traders to participate in the F&O segment. Perhaps, a simple trading product can offer a solution for SEBI's concern about retail participation while allowing traders to get F&O exposure.

Managed funds

SEBI can permit brokerages to apply for a separate licence to start a trading fund. The minimum investment in the fund can be ₹2 lakh in line with the optimal capital needed to previously trade in the F&O segment. Brokerage firms can pool retail money into the fund that can take exposure to F&O.

There are a couple of advantages with this structure. One, it addresses SEBI's concern that retail traders lose money in the F&O segment because they do not appreciate the risks associated with these instruments. In the proposed set-up, professional traders will manage the money. And two, the capital required to take exposure in the fund will be affordable for individuals who were earlier trading in the F&O segment.

It is important that the brokerage firms have an incentive to offer such funds. Why? Unlike typical equity mutual funds that do not trade frequently, funds in the F&O segment must trade actively. That requires time and effort. Therefore, the funds should be allowed to charge a high flat fee of, say, 2% on the investment value. A performance fee, as paid to hedge funds and private equity funds, would be desirable but difficult to implement. Why? As with mutual funds, the funds ought to disclose the daily net asset value. Redemption must be allowed on any business day without lock-in period, as the funds will invest in short-dated tradable instruments. Such short-dated fund structures make it difficult to compute and manage performance fees.

Conclusion

This idea is aimed at spurring a discussion among players to explore avenues for retail traders to access the F&O segment, respecting SEBI's concern about speculative trading. The idea necessitates regulatory steps from SEBI to allow such funds to be introduced. Note that, unlike mutual funds, pooled funds can be absolute-return products, with no performance benchmarks.

(The author offers training programmes for individuals to manage their personal investments)

Bank Fixed Deposit Rates

Bank Name	Interest Rates (%) Highest Slab	1-year Tenure	3-year Tenure	5-year Tenure
Small Finance Banks				
AU Small Finance Bank	8.00	7.25	7.50	7.25
Equitas Small Finance Bank	8.25	8.10	8.00	7.25
ESAF Small Finance Bank	8.25	6.00	6.75	6.25
Jana Small Finance Bank	8.25	8.25	8.25	8.20
NorthEast Small Finance Bank	9.00	7.00	9.00	6.25
Suryoday Small Finance Bank	8.60	8.05	8.60	8.25
Ujjivan Small Finance Bank	8.25	8.25	7.20	7.20
Unity Small Finance Bank	9.00	7.85	8.15	8.15
Utkarsh Small Finance Bank	8.50	8.00	8.50	7.75
Private Sector Banks				
Axis Bank	7.25	6.70	7.10	7.00
Bandhan Bank	8.05	8.05	7.25	5.85
City Union Bank	7.50	7.00	6.50	6.25
CSB Bank	7.75	5.00	5.75	5.75
DBS Bank	7.50	7.00	6.50	6.50
DCB Bank	8.05	7.10	7.55	7.40
Federal Bank	7.40	6.80	7.00	6.60
HDFC Bank	7.40	6.60	7.00	7.00
ICICI Bank	7.25	6.70	7.00	7.00
IDFC First Bank	7.90	6.50	6.80	6.75
IndusInd Bank	7.99	7.75	7.25	7.25

Bank Name	Interest Rates (%) Highest Slab	1-year Tenure	3-year Tenure	5-year Tenure
Jammu & Kashmir Bank	7.00	7.00	6.75	6.50
Karur Vysya Bank	7.60	7.00	7.00	7.00
Karnataka Bank	7.50	7.25	6.50	6.50
Kotak Mahindra Bank	7.40	7.10	7.00	6.20
RBL Bank	8.10	7.50	7.50	7.10
SBM Bank India	8.25	7.05	7.30	7.75
South Indian Bank	7.40	6.70	6.70	6.00
Tamilnad Mercantile Bank	7.60	7.00	6.50	6.50
YES Bank	7.75	7.25	7.25	7.25
Public Sector Banks				
Bank of Baroda	7.30	6.85	7.15	6.80
Bank of India	7.30	6.80	6.50	6.00
Bank of Maharashtra	7.35	6.75	6.50	6.50
Canara Bank	7.4	6.85	7.40	6.70
Central Bank of India	7.45	6.85	6.75	6.50
Indian Bank	7.30	6.10	6.25	6.25
Indian Overseas Bank	7.30	7.10	6.50	6.50
Punjab National Bank	7.25	6.80	7.00	6.50
Punjab & Sind Bank	7.45	6.30	6.00	6.00
State Bank of India	7.25	6.80	6.75	6.50
Union Bank of India	7.30	6.80	6.70	6.50

Home Loan Interest Rates

(In %)

Name of Lender	Loan Amount (Rs.) Upto 30 lakh	Above 30 lakh & upto 75 lakh	Above 75 lakh
Public Sector Banks			
State Bank of India	8.50-9.85	8.50-9.85	8.50-9.85
Bank of Baroda	8.40-10.65	8.40-10.65	8.40-10.90
Union Bank of India	8.35-10.75	8.35-10.90	8.35-10.90
Punjab National Bank	8.45-10.25	8.40-10.15	8.40-10.15
Bank of India	8.35-10.85	8.35-10.85	8.35-11.10
Canara Bank	8.50-11.25	8.45-11.25	8.40-11.15
UCO Bank	8.45-10.30	8.45-10.30	8.45-10.30
Bank of Maharashtra	8.35-11.15	8.35-11.15	8.35-11.15
Punjab and Sind Bank	8.50-10.00	8.50-10.00	8.50-10.00
Indian Overseas Bank	8.40-10.60	8.40-10.60	8.40-10.60
Indian Bank	8.40-10.30	8.40-10.30	8.40-10.30
Private Sector Banks			
Kotak Mahindra Bank	8.75 #	8.75 #	8.75 #
ICICI Bank	8.75 #	8.75 #	8.75 #
Axis Bank	8.75-13.30	8.75-13.30	8.75-9.65
HSBC Bank	8.50 #	8.50 #	8.50 #
South Indian Bank	8.70-11.70	8.70-11.70	8.70-11.70
Karur Vysya Bank	9.00-11.05	9.00-11.05	9.00-11.05

(In %)

Name of Lender	Loan Amount (Rs.) Upto 30 lakh	Above 30 lakh & upto 75 lakh	Above 75 lakh
Karnataka Bank	8.75-10.87	8.75-10.87	8.75-10.87
Federal Bank	8.80 #	8.80 #	8.80 #
Dhanlaxmi Bank	9.35-10.50	9.35-10.50	9.35-10.50
Tamilnad Mercantile Bank	8.60-9.95	8.60-9.95	8.60-9.95
Bandhan Bank	9.16-15.00	9.16-13.33	9.16-13.33
RBL Bank	9.00 #	9.00 #	9.00 #
CSB Bank	10.49-12.34	10.49-12.34	10.49-12.34
HDFC Bank Ltd.	8.75 #	8.75 #	8.75 #
City Union Bank	8.25-9.50	8.50-10.00	8.75-10.50
Housing Finance Companies (HFCs)			
LIC Housing Finance	8.50-10.35	8.50-10.55	8.50-10.75
Bajaj Housing Finance	8.50 #	8.50 #	8.50 #
Tata Capital	8.75 #	8.75 #	8.75 #
PNB Housing Finance	8.50-14.50	8.50-14.50	8.50-11.45
GIC Housing Finance	8.80 #	8.80 #	8.80 #
SMFG India Home Finance	10.00 #	10.00 #	10.00 #
Aditya Birla Capital	8.60 #	8.60 #	8.60 #
ICICI Home Finance	9.30 #	9.30 #	9.30 #
Godrej Housing Finance	8.55 #	8.55 #	8.55 #

Rates as on December 4 #onwards Source:Paisabazaar.com

Gamify India's skilling initiatives

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The problem of unemployment has become a contentious issue in economic policy discussions in India in recent times. Economic Survey 2023-24 estimated that India needs to create 78.5 lakh new jobs in the non-farm sector annually until 2030 to meet the demands of the rising workforce. One of the policy prescriptions often suggested to overcome the unemployment challenge is to close the growing gap between the skill sets of job seekers and the skill requirements of the industry.

India's skilling challenge

Over time, India has established a comprehensive institutional and policy framework for training and skilling. However, the success of this is somewhat limited. The Periodic Labour Force Survey 2022-23 identified that only 21% of the Indian youth aged 15-29 years had received vocational/technical training through formal and informal sources. The share of youth who had received formal vocational/technical training was 4.4% in 2022-23. The Chief Economic Advisor, V. Anantha Nageswaran, recently stated that only 51% of India's graduates are employable. These facts raise concerns regarding the reach, quality, and industry relevance of existing skilling programmes. Incidentally, one of the focus areas of the Prime Minister's package for employment and skilling announced in the 2024-25 Budget was improving the outcome and quality of skilling and aligning the training content and design to the skill needs of the industry.

The enormity of India's skilling challenge is further aggravated by the need to equip the workforce with skills and knowledge that meet the requirements of Industry 4.0 (I4.0), which entails integrating advanced technologies such as artificial intelligence, robotics, the internet of things, and big data to do smart manufacturing. Over two-thirds of Indian manufacturers are expected to embrace digital transformation by 2025. Government policy support has been given to prepare the industry for I4.0 through the SAMARTH Udyog Bharat 4.0 initiative. But according to estimates, only 1.5% of Indian engineers possess the skills for new-age jobs. Sixty percent of the Indian MSME workforce lacks the new-age digital skills. So, it becomes crucial to skill and upskill our workforce according to I4.0 needs.

> Gamified and simulation-based learning and training modules can potentially improve the quality and outcome of workforce training

A new initiative

India could consider incorporating gamified and simulation-based learning and training modules. While gamified learning incorporates game elements into skill training, simulation-based learning uses virtual environments that mimic real-world scenarios, allowing learners to practice and apply skills in a safe and controlled setting. Using game mechanics makes skill training interactive and enjoyable, leading to higher participant engagement and knowledge retention than traditional learning methods. Also, the rewards and recognition through points and badges can motivate learners to complete training tasks and strive for excellence. Gamified systems often provide instant feedback to help trainees understand their progress and areas for improvement. Features such as 'Leaderboards and challenges' can foster a sense of competition, thereby encouraging trainees to perform better. Clear goals and milestones in gamified learning help trainees stay focused.

Simulation-based learning provides hands-on experience in a controlled environment and allows trainees to experiment, make mistakes, and learn from them without bothering about real-world consequences. Simulations also help trainees understand complex systems and develop critical thinking, problem-solving, and practical skills. Also, the immersive nature of the simulations allows learners to retain the knowledge gained for longer. Singapore and Germany have adopted gamified and simulation-based learning into their education, vocational, and skill training systems.

Adopting such a module in government skilling programmes can potentially improve the quality and outcome of workforce training. The module can be customised by identifying areas where skill sets are lacking. Trainees can be presented with challenges during training that will be adjusted based on their progress. The platform can feature training modules that simulate actual professional circumstances, enabling trainees to apply their knowledge practically. Simulations can assess the trainee's decision-making abilities and demonstrate the outcomes resulting from their decisions. At a decentralised level, the module can be extended to education institutes of higher learning by providing the students with a platform to work on real-world projects. Students can be given opportunities to intern on live projects and demonstrate their skills, and industry can use this talent pool while hiring.

The SWAYAM and Skill India Digital Hub (SIDH), the two online platforms for skill education and training initiated by the Indian government, can host the gamified and simulation training module. The SWAYAM platform hosts more than 4,000 courses. Since its inception, over 40 million participants have enrolled in the platform and a lion's share (93.45%) of successful course completions in the platform were under the engineering and physical sciences stream. As of June 2024, 7.63 lakh candidates were enrolled in SIDH's 752 online courses. The platform offers 7.37 lakh minutes of digital content, making it a potentially rich resource for learners. The response to SWAYAM and SIDH demonstrates the huge demand for technical education and training in India and further strengthens the idea of offering gamified and simulation-based skill training on such platforms.

A worrying mismatch

The maternal deaths in Karnataka have exposed chinks in the drug testing system

STATE OF PLAY

Afshan Yasmeen
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The recent deaths of five women following caesarean section deliveries at the district hospital in Ballari have raised concerns about not just the quality of maternal care in the north Karnataka district, but also public healthcare in general.

Of the 34 women who delivered through C-section between November 9 and November 11 at the Ballari hospital, seven developed complications such as acute kidney injury and multi-organ dysfunction. Five of them are dead, though none of them had high-risk pregnancies. An expert committee from the Rajiv Gandhi University of Health Sciences, set up by the government to probe the deaths, concluded that the women had developed complications after they were administered a substandard Compound Sodium lactate Injection IP (Ringer's Lactate solution), an intravenous fluid that doctors use to restore hydration and fluid balance.

These fatalities occurred despite the significant improvement in maternal mortality over the years in Karnataka. The Sample Registration System 2018-20 bulletin for Maternal Mortality Ratio (MMR) showed a decline in Karnataka's MMR from 83 per lakh live births in 2017-18 to 69 in 2018-20. The State's Civil Registration System data from 2021-22 to 2023-24 showed a further decline to 64 in 2023-2024. This year, 327 maternal deaths have been reported in Karnataka since April.

Chief Minister Siddaramaiah ordered the suspension of the Karnataka State Drugs Controller, Umesh S., for dereliction of duty. He also directed officials to blacklist Paschim Banga Pharmaceuticals, which had supplied the substandard IV fluids to the Karnataka State Medical Supplies Corporation Limited (KSMSCL). While a criminal case has been registered against the pharmaceuticals company, a departmental inquiry has been ordered against the Managing Director of KSMSCL. An expert committee is to be set up to investigate whether any other maternal deaths occurred in the State where IV fluids supplied by the company was used.

Currently, the particular batch of the solution in question has been withdrawn, and the Ringer's Lactate fluids supplied to the Ballari district hospital have been sent to private laboratories accredited to the National Accreditation Board for Testing and Calibration Laboratories (NABL) to detect the presence of endotoxins.

The incident has exposed chinks in the drug testing system. Flagging a mismatch in test results conducted by the Central Drugs Laboratory (CDL), Kolkata, and the State, the Karnataka Health Department has written to the Drugs Controller General of India to investigate the Standard Quality (SQ) certification issued by the CDL, Kolkata, to the manufacturer. The State has also sought action against the manufacturer.

In his letter to the Drugs Controller General of India, Principal Secretary (Health) Harsh Gupta pointed out that the batches supplied by the company had been frozen for use in March 2023 by the KSMSCL after two batches were found to be Not of Standard Quality (NSQ) by the government analyst at the Drugs Testing Laboratory, Karnataka. The manufacturer challenged these reports. These were referred to CDL, Kolkata, by the competent court, and the CDL found these to be of SQ. Testing at Karnataka had found that 22 batches failed on various parameters, but few of these samples were found to be SQ in Kolkata.

"Since August 2024, some of the earlier frozen batches which had not yet been tested by the drugs control officers or which had been found to be of SQ by the government analyst had been released by KSMSCL after those were certified to be SQ by NABL empaneled laboratories. KSMSCL has still not released any of such batches found to be NSQ by the Karnataka Drugs Testing Laboratory, even though some of these batches were found to be of SQ by the CDL later," the letter stated.

However, questions remain. How did this mismatch happen and why did it not warrant a thorough review and a more cautious approach, including a recall of all the 192 batches supplied by the company? This oversight highlights the need for more stringent monitoring and transparency in healthcare product testing.

Meanwhile, there are signs that the incident is being politicised instead of being addressed as a public health concern. With the winter session of the Karnataka Legislature beginning today, the Opposition is expected to bring the government to the mat.

What went wrong at Sathanur dam?

Many days before the historic rainfall brought by Cyclone Fengal, Sathanur was filled to 95% of its capacity

DATA POINT

Sambavi Parthasarathy
Vignesh Radhakrishnan

Data show that Cyclone Fengal brought the highest rainfall recorded in the last 70 years to upstream areas of the Sathanur dam in Tiruvannamalai district of Tamil Nadu. The dam, which was already close to its full capacity days before it received water from the rainfall, flooded villages downstream.

Could the floods have been avoided? Last week, AIADMK general secretary Edappadi K. Palaniswami alleged that the release of water from the dam, without prior notice, had caused the floods. PMK president Anbumani Ramadoss said, "If water had been released gradually, such a big catastrophe wouldn't have happened." The DMK government has denied these claims, stating that proper protocol was followed in managing the dam and issuing flood warnings. An analysis of rainfall figures and of data on the dam's storage and flow explains the event.

Map 1 shows various taluks in the Pennaiyar river basin and the location of the Sathanur dam.

Tables 2A-2C show the top 10 wettest days between January 1954 and December 2024 in three immediately upstream taluks of the dam – Harur, Uthangarai, and Chengam. In Harur, 251mm of rainfall was recorded on December 2, the highest in the last 70 years by a wide margin. In Uthangarai, 185mm of rainfall was recorded on that day, the second highest in the period. In Chengam, 115mm of rainfall was recorded, the seventh highest for that place.

Data also show that the downstream taluks of the Sathanur dam recorded copious amounts of rainfall, which increased flooding in the Thenpennai river. **Tables 2D-2F** show that in downstream areas such as Thandarampattu and Tiruvannamalai, the amount of rainfall recorded on December 1 and December 2 was so high that those days feature in the top 10 list of the wettest days in the last 70 years. In Sankarapuram, the 255mm received on December 2 was the highest in 70 years.

Chart 3 shows the inflows, storage percentage, and outflows of the Sathanur dam between December 5, 2023 and November 28, 2024 (two days before the floods).

In December last year, the dam was filled to 95% of its capacity after heavy rainfall. Later, when inflows stopped due to lack of rain, the dam was opened gradually. The outflow was maintained initially at 530 cusecs and later at 1,430 cusecs for irrigation, drinking water, and electricity generation purposes. The storage went down to 20% by May-June and the outflow was stopped.

In August, rainfall increased the storage to 40%. Heavier rainfall further boosted the storage to over 90% in September and over 95% in October. On many days of September and October this year, water was released in a controlled manner (500-1,200 cusecs) to maintain the storage level at around 95%.

Chart 3 shows the dam's usual cycle: storing water from August to December, releasing it in a controlled fashion from January to April, and repeating the cycle.

Chart 4 presents the same information as Chart 3A, with the addition of data from the seven days between November 29 and December 5, 2024. Due to the historic rains upstream, there was a huge inflow of water into the dam, which was already filled to 95% many days before the event.

Between December 2 and 5, 1.3 lakh cusecs of inflow was recorded in the dam, with a similar amount of outflow. As the dam was already filled to the 95% mark, storing the water and releasing it in short bursts was not an option. Heavy rainfall downstream further worsened the crisis.

Ebbs and flows in a dam

The map was sourced from the National Water Mission website. The daily rainfall data for the various upstream and downstream locations was sourced from the IMD's gridded rainfall database. The storage and flow data of the dam was sourced from the tnagriculture.in website

An analysis of rainfall figures and of data on the dam's storage and flow explains the event

Map 1: Map shows various taluks in the Pennaiyar River Basin and the location of the Sathanur dam

Chart 2: Tables 2A-2C show the top ten wettest days, between January 1954 and December 2024, in three immediately upstream taluks of the dam— Harur, Uthangarai and Chengam.

Tables 2D-2F show the top ten wettest days, between January 1954 and December 2024, in three downstream taluks — Thandarampattu, Tiruvannamalai and Sankarapuram

*Rainfall in mm ^Rank

2A: Harur		
Dec. 2, 2024	**251***	**1**
Nov. 29, 1959	147	2
Nov. 10, 2015	147	3
Oct. 8, 1986	147	4
Dec. 22, 1983	117	5
Dec. 5, 1993	115	6
Oct. 29, 1991	115	7
Dec. 2, 2017	112	8
Nov. 16, 1991	108	9
Dec. 16, 1971	107	10

2B: Uthangarai		
Dec 18, 1996	316	1
Dec 2, 2024	**185**	**2**
Dec 20, 2007	147	3
Dec 2, 2017	135	4
Nov 10, 2015	127	5
Nov 19, 2021	123	6
Nov 6, 1994	106	7
Dec 8, 1972	101	8
Aug 16, 2011	92	9
Jul 26, 1964	92	10

2C: Chengam		
Dec. 20, 2007	191	1
Dec. 2, 2017	167	2
Nov. 4, 1966	144	3
Nov. 19, 2021	134	4
May 17, 1955	120	5
Nov. 10, 1966	117	6
Dec. 2, 2024	**115**	**7**
Dec. 16, 1971	111	8
Nov. 20, 1969	110	9
Nov. 6, 1994	107	10

2D: Thandarampattu		
Nov 4, 1966	174	1^
May 17, 1955	159	2
Nov 19, 2021	145	3
Nov 20, 1969	142	4
Dec 2, 2024	**141**	**5**
Oct 29, 1991	135	6
Nov 6, 1994	130	7
Nov 28, 2008	120	8
Dec 2, 2017	118	9
Dec 1, 2024	**115**	**10**

2E: Tiruvanamalai		
Dec 20, 2007	191	1
Dec 2, 2017	167	2
Nov 4, 1966	144	3
Dec 2, 2024	**141**	**4**
Nov 19, 2021	134	5
May 17, 1955	120	6
Nov 10, 1966	117	7
Dec 1, 2024	**115**	**8**
Dec 16, 1971	111	9
Nov 20, 1969	110	10

2F: Sankarapuram		
Dec 2, 2024	**255**	**1**
Nov 10, 2015	203	2
Dec 20, 2007	183	3
Nov 28, 2008	180	4
Nov 19, 2021	179	5
May 1, 1966	177	6
Nov 4, 1978	170	7
Nov 20, 1969	165	8
Dec 17, 2020	158	9
Nov 26, 2008	157	10

Chart 3: The inflows, storage percentage, and outflows of the Sathanur dam between December 5, 2023 and November 28, 2024 (two days before the floods). In charts, K= 1,000

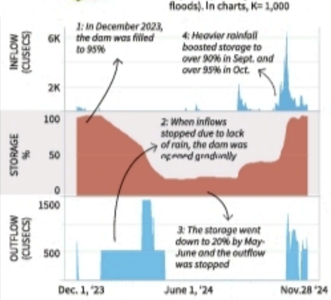
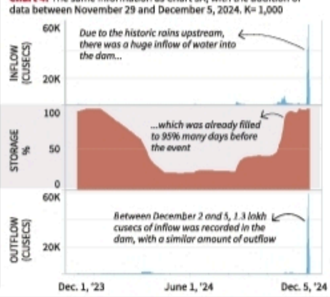


Chart 4: The same information as Chart 3A, with the addition of data between November 29 and December 5, 2024. K= 1,000



FROM THE ARCHIVES

The Hindu.

FIFTY YEARS AGO DECEMBER 9, 1974

Reversion to steam traction on railways not economical

New Delhi, Dec. 8: Preliminary economy studies carried out by the Railway Board have indicated that taking into account all factors, it would not be prudent for the railways to revert to steam traction. Steam locomotion requires much higher capital investments in line capacity expansion and servicing and maintenance facilities to keep up the higher hauling power of the diesel and electric locomotives.

While it is economical to revive production of steam locomotives, the study says there is decidedly a case for extending the life of the existing system fleet by rehabilitation and further maintenance. Consequently it has been decided to curtail drastically the condemnation of old steam locomotives for the present except those earlier non-standard ones which are under-powered for to-day's requirements.

So far as electrification is concerned, it is now realised that the heavy investments in electrification, which were hitherto justifiable only at very high traffic densities, can now be viable for sections with somewhat lower traffic densities. However, apart from electrification being a time-consuming process, the shortage of funds acts as a constraint on a too rapid acceleration of the electrification programme. Also, says the study, electrification of sections has to be matched with the availability of power and electric locomotives. Compared to a target of 1,200 route kilometres for the Fourth Plan, it has been decided to step up the pace of electrification to about 1,800 additional kilometres during the Fifth Plan.

A HUNDRED YEARS AGO DECEMBER 9, 1924

Srinivasan's medical diary

We have received a copy of Srinivasan's Medical Diary for 1925, published by Mr. V. Srinivasan, 44, Rattan Bazaar Road, Madras. It is a neatly bound volume containing information particularly useful to the medical practitioner, besides the postal, legal and other general items found in an ordinary diary. It gives the calendar for 1925 and a page for a day. The medical information, tables, extracts from Acts and other matters valuable to a practicising doctor cover about 100 pages.

Study brings Indian star tortoise to evidence-based conservation

Researchers have identified two genetically distinct groups of the species. The genetic divergences showed up as differences in physical features that could inform strategies on where and how to release and conserve rescued tortoises, Subhasree Sahoo, a Ph.D. student and first author of the study, says

Sanjukta Mondal
BENGALURU

The Indian star tortoise (*Geochelone elegans*) is a sight to behold, with its obsidian shell and the striking sun-yellow star patterns adorning it. These tortoises are hardy herbivores and are popular as exotic house pets – but they shouldn't be. It's illegal to own one in India but also unethical since they are vulnerable in the wild.

Endemic to the subcontinent, Indian star tortoises reside in arid pockets of northwest India (bordering Pakistan), South India, and Sri Lanka. However, members of the species have also been found in people's homes as far afield as Canada and the U.S. The increasing demand for them as pets has entangled them in one of the largest global wildlife trafficking networks.

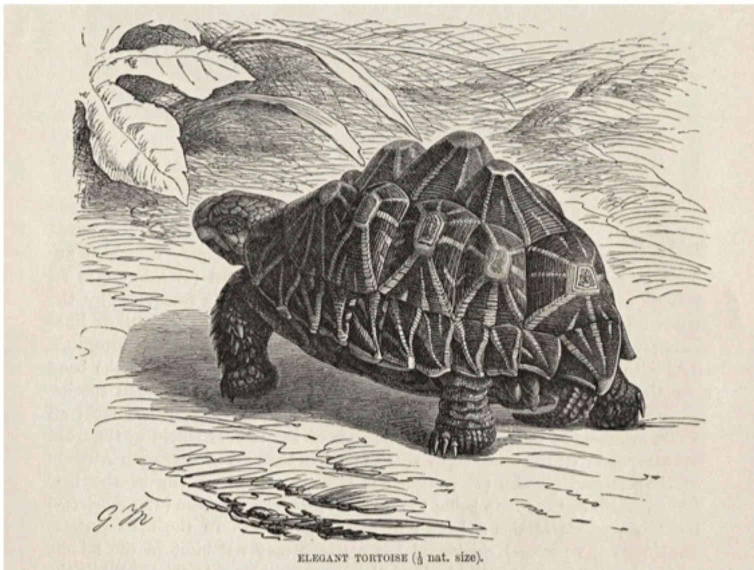
The Indian star tortoise is listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and in Schedule I of the Wildlife (Protection) Act 1972, which provides the highest level of protection to animals in Indian law. Despite this, officials have already seized hundreds of tortoises being smuggled through the Chennai and Singapore airports and across the India-Bangladesh border this year.

Wildlife biologist Sneha Dharwadkar, co-founder of an NGO called Freshwater Turtles and Tortoises of India, is worried that unscientific releases of the seized tortoises could worsen their fate. "We can no longer simply take confiscated tortoises and release them in nearby forests," Dharwadkar wrote in an email.

To find an alternative, researchers from the Wildlife Institute of India and Panjab University explored the diversity and natural distribution in India by sequencing the genomes of Indian star tortoise in zoos, wildlife reserves, and protected areas.

The study identified two genetically distinct groups of Indian star tortoises: northwestern and southern.

The genetic divergences showed up as differences in physical features that could inform strategies on where and how to release and conserve rescued tortoises, Subhasree Sahoo, a PhD student at the Wildlife Institute of India, Dehradun, and first author of the study, said.



An engraving of an Indian star tortoise. THE ROYAL NATURAL HISTORY (1896)

Same but different

Millions of years ago, *Geochelone*, the group that includes the Indian star tortoise, spread across the Indian subcontinent after the latter split from the Gondwana supercontinent and collided with Eurasia.

Over time, parts of the subcontinent became arid and encouraged the growth of savannahs and open grasslands in northwestern and peninsular India, which are now the tortoises' natural habitats.

But the creation and expansion of savannahs came at the expense of humid forests: the increasingly seasonal nature of the monsoons restricted them to parts of southwest India and Sri Lanka. This separation of humid and dry areas paralleled the splitting of the tortoises into northern and southern groups about 2 million years ago.

To find genetic evidence of this split, the researchers of the new study collected tortoise tissue samples from 14 locations.

"These tortoises are very rare to encounter, so I chose the rainy season because that's the breeding season. They're the most active. That's also what poachers do," Sahoo said. With the help of frontline forest staff and local communities living near the tortoises' natural range, she was able to collect 38 samples from northwestern India and 44 from southern India.

Researchers prefer tortoises' blood samples for genetic testing but even small mistakes when drawing blood can cause profuse bleeding. This is manageable in controlled environments like zoos or wildlife reserves, and less so in the wild.

"When I was in Kakatiya Zoo in Telangana, a zookeeper told me, 'Madam, why do you want to take blood? You can take the scutes, right? They come off very easily'," Sahoo said. Scutes are keratin layers found on the tortoises' limbs, neck, and shell. "I peeled off some scute from the zoo in Kakatiya and tested [it] in the

The increasing demand for them as pets has entangled them in one of the largest global wildlife trafficking networks

lab, and it worked just fine."

Once collected, the researchers extracted DNA from the tissue samples. Then they sequenced the mitochondrial genes cytochrome B and NADH dehydrogenase 4. The gene for cytochrome B is highly conserved and used to identify subspecies-level differentiation and later to detect smaller genetic variations between the samples.

The researchers also screened 10 microsatellite markers: short DNA sequences that repeat in a particular location in the genome. They serve as a genome's fingerprint and are helpful to identify how individuals of the same species are related, how they mate, and recent changes in their population.

The results revealed that even after illegal poaching and unscientific releases, the northwestern group remains largely genetically unchanged whereas the southern group is highly diverse.

"For a long time, on-ground practitioners have suspected the presence of at least two evolutionarily significant units, or ESUs – populations of organisms considered distinct for conservation purposes," Dharwadkar said. "This paper provides a reliable confirmation of that."

Restoring natural order

Sandeep Kumar Gupta, nodal officer at the Wildlife Institute of India, Dehradun, and corresponding author of the study said that since different Indian star tortoises are found in different areas, it's crucial to not mix the populations during release. Doing so might lower their genetic diversity and depress breeding rates.

Sahoo also raised the concern of shell-pyramiding in captive-bred star tortoises. These tortoises develop pyramid-shaped shells instead of the dome-like shells in the wild due to nutritional deficiencies, and can further complicate mating and breeding issues.

Gupta also emphasised greater public awareness of the legality of keeping certain species as pets and the importance of adhering to national laws on this front.

Overall, the team expressed belief in its paper that the findings could benefit both national and international agencies with evidence-based conservation of the Indian star tortoise.

(Sanjukta Mondal is a chemist-turned-science-writer with experience in writing popular science articles and scripts for STEM YouTube channels. sanjuktamondal.sm@gmail.com)

THE GIST

Endemic to the subcontinent, Indian star tortoises reside in arid pockets of northwest India (bordering Pakistan), South India, and Sri Lanka

The Indian star tortoise is listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and in Schedule I of the Wildlife (Protection) Act 1972

Officials have already seized hundreds of tortoises being smuggled through the Chennai and Singapore airports and across the India-Bangladesh border this year

BIG SHOT


On display: A stegosaurus fossil nicknamed 'Apex' was unveiled to the media at the American Museum of Natural History in New York, on December 5. Billionaire Kenneth C. Griffin, who bought the fossil for $44.6 million, has loaned it to the museum for four years. AFP

WHAT IS IT?

Mathematical realism

Is mathematics a discovery or an invention? The answers to this question are an important part of the philosophy of mathematics. To answer it, philosophers would like to know whether mathematics is a natural part of this world that existed before humans discovered and comprehended it or if mathematics was invented by humans. In this discussion, experts have developed many different ideas. A particularly popular one is mathematical realism: according to this view, mathematics is real irrespective of whether there is a human mind to comprehend it. In other words, it stipulates that human minds discovered mathematics rather than creating it. There has been some support from evolution for this view. Insects called cicadas live underground but emerge every few years to eat foot, reproduce, and then die. This year, three broods of cicadas emerged at the same time: one with a 13-year cycle, one with a 17-year cycle, and one with a seven-year cycle. It's the first such event in 1,547 years. Seven, 13, and 17 are all prime numbers, and some scientists believe evolution opted for them to avoid predators that emerge from underground to hunt cicadas at periodic intervals. By keeping their emergence cycle to a prime number of years, cicadas have a better chance of avoiding the predators' more regular cycles.


Mathematical realism stipulates that human minds discovered mathematics rather than creating it. DAN CRISTIAN PĂDUREȚ

There are many types of realism as well, including Platonic, mathematicism, and logicism. Other, alternative positions on the nature of mathematics include structuralism, fictionalism, and social constructivism.

-Vasudevan Mukunth

For feedback and suggestions for 'Science', please write to **science@thehindu.co.in** with the subject 'Daily page'

Business Standard
VOLUME XXXI NUMBER 201
NEW DELHI | MONDAY, 9 DECEMBER 2024

Policy balance

Monetary policy support to growth will be limited

Official estimates released recently showed that the Indian economy was growing significantly slower than the rate projected by the Reserve Bank of India (RBI). The economy expanded 5.4 per cent in the second quarter this financial year as against the RBI's projection of 7 per cent for the same period in its October monetary-policy review. Some analysts have argued that the delay in policy-rate reduction by the Monetary Policy Committee (MPC) was partly responsible for the loss of momentum. Top government functionaries also argued for lower policy interest rates in recent weeks. Given the backdrop, the MPC did well to keep the repo rate unchanged last week. A knee-jerk reaction at this stage would not have helped. Completing the disinflation process remains important.

Yet, the RBI reduced the cash reserve ratio (CRR) by 50 basis points, which will come into effect in two tranches and increase liquidity worth ₹1.16 trillion in the banking system. Although the RBI has justified the cut, anticipating liquidity stress, other tools are available with the central bank to fine-tune temporary liquidity conditions. The CRR cut is essentially a step in normalising monetary-policy operations. Although the inflation rate went above the upper end of the tolerance band in October, it is now projected to decline to the mandated target of 4 per cent by the second quarter of 2025-26. The latest Monetary Policy Report (released in October) shows the RBI expects the inflation rate to be at 4.1 per cent in the fourth quarter of 2025-26. Thus, inflation outcomes in 2025-26 are likely to be close to the 4 per cent target and would open up space for policy-rate reduction.

However, the extent and timing will depend on various factors. For instance, it's worth noting that the inflation outcomes have surprised the central bank over the past few years on the upside. Thus, ideally, the MPC would need to make sure that the inflation rate will remain aligned with the target on a durable basis. Further, recent research by RBI economists showed the estimate for the neutral rate in the fourth quarter last financial year was 1.4-1.9 per cent compared to 0.8-1 per cent in the third quarter of 2021-22. Thus, given the increase, the scope for policy-rate cuts will be fairly limited, which will also play a role in determining the appropriate time to deliver the cuts. The MPC may be reluctant to frontload the rate cut and want to save some policy space to deal with uncertainties.

In terms of growth, while the MPC has reduced the growth projection for this financial year to 6.6 per cent compared to 7.2 per cent in the last policy meeting, its projection for the next four quarters, including the ongoing quarter, on average, is above 7 per cent. Clearly, the MPC expects momentum to improve though the projections may appear optimistic to some analysts. In any case, the limited space for policy-rate cuts may not do much to push up economic growth in a sustainable manner. The government will need to look for other drivers to increase the growth rate. In an unrelated move, the RBI increased the interest-rate ceiling on foreign currency non-resident bank deposits. Although foreign capital has moved out in recent months, the decision is somewhat intriguing, given the current levels of foreign-exchange reserves. In fact, the rupee, which is overvalued in real terms, should be allowed to depreciate.

A dangerous failure

Plastic waste urgently needs a global solution

This month negotiators at the fifth Intergovernmental Negotiating Committee (INC-5) meeting in Busan, South Korea, failed to finalise the global treaty on reducing plastic pollution. By squandering a chance to unite behind a programme, first articulated in March 2022 at the United Nations (UN) Environment Assembly in Nairobi, Kenya, to counter the escalating environmental and health problems posed by plastic pollution, the INC-5's failure has added to the planet's existential threat. The principal problem was the negotiators' inability to agree on a text for "upstream measures" — that is, reducing plastic production, and eliminating specified plastic products and certain chemicals in plastic products. Given that plastics are made from fossil fuel, the principal opposition has come from the world's major producers of oil and gas — Russia, Saudi Arabia, Bahrain, and Kuwait. None of these countries was willing to agree to production cuts principally because plastics are seen as a growth area in the oil and gas business as renewable energy gains traction. The encouraging news is that the door for further negotiations is still open. There is talk of negotiations in 2025 — dubbed INC-5.2 — though a date has not been set.

The need for a global agreement is critical. As with other contributors to climate change, the proliferation of plastic trash is not a localised problem. It is contaminating soil and water everywhere with toxic chemicals, and changing the chemical composition of the oceans and impacting their ability to act as an effective carbon sink. Humongous quantities of plastics are draining into oceans and washing up on distant foreign shores, including uninhabited islands. Without an agreement to cut production and use, the problem will become overwhelming in less than 20 years. The irony is that unlike global carbon emission, plastic made from fossil fuel is just about a century old. Over half the plastics have been made over the past 15 years; nearly 500 million tonnes of new plastics are produced every year and it is reckoned that without a cut it will grow by 70 per cent by the end of this year. The undoubted benefits of plastic in medical devices, and in fuel-saving auto parts are increasingly being offset by the throwaway culture in society; as a result, single-use plastics account for 40 per cent of annual plastic production in the form of cutlery, plastic bags, and food wrappers.

Though the INC-5 negotiations would have been helpful, a casual observer can easily conclude that India is suffering from a plastic-waste crisis already. A recent study reveals India accounts for almost 20 per cent of global plastic waste annually, which is the fallout from rapid urbanisation and faster economic growth. The chief contributors to this catastrophe are inefficient urban-garbage collection mechanisms, the burning of plastic waste in open landfills, adding to toxic emissions, and a growing mountain of non-recyclable single-use plastics and the low viability of the recycling business. Only about 60 per cent of plastic waste is recycled, mostly by the inefficient informal sector. Increasingly stringent regulatory restrictions have been largely ineffective because they have not been backed by efficient monitoring or implementation — the widespread use of plastic straws despite a ban being one example. It does not need an elaborate UN treaty to underline the urgent need for the state administrations to tackle this national hazard with a sense of urgency.

The tortoise and the hare

How can we create conditions for a next Indian growth episode?

ILLUSTRATION: AJAYA MOHANTY

SNAKES & LADDERS

AJAY SHAH

Most people think of economic growth as the norm, as a steady state, as something that happens (on average) for a long time. This intuition is based on the experience of the first world, most notably the United States (US) and the United Kingdom (UK). These countries have a remarkable experience with extremely stable, low average growth rates over long periods of time.

They got there through the power of compounding: A 1.5 per cent per capita real GDP (gross domestic product) growth for 200 years starting from 1820, which gave gains of about 20 times. Surrounding this long-term average, they had ups and downs — of world wars, recessions, and depressions. The intellectual and institutional capabilities of countries like the UK and the US were able to grapple with the challenges that came along, maintain social cohesion, and create conditions for safety and optimism for private persons, through which low stable growth was sustained across an astonishing array of challenges.

For many of us in India, it is easy to slip into this illusion: The idea that there is a stable long-term growth rate which is baked in, and then around that we have business-cycle fluctuations. However, this is not how underdevelopment works. The essence of development macroeconomics is the analogy with a hare and not a tortoise.

In the Indian story, there are clear phases which help us organise our thinking. At first, from 1947-62 (15 years), we got a nice phase of growth. Some colonial repression was eased. The political and bureaucratic leadership was of very high quality. The repressive apparatus of Indian socialism was not yet in play. Growth accelerated compared with the 1757-1947 period.

And then, we got a batch of bad years. Wars in 1962, 1965, and 1971 were expensive and emotionally bruising. Jawaharlal Nehru's death created political complexities. There were two droughts. Indian socialism was built out with repressive laws, and the slow emergence of state capability that actually enforced the laws. This gave a bad period for 1962-76 (a period of 14 years). Indian exceptionalism was questioned, and we looked more like a normal third world country with a government that crushed freedom and harmed economic growth. Growth slumped to the "Hindu rate" of 3.5 per cent.

Under the Janata Party, the first liberalisation began with Morarji Desai, H M Patel, and D T Lakdawala. This was carried forward by Indira Gandhi and Rajiv Gandhi. This gave a small growth acceleration 1979-91 (12 years). And then, a better opening up to the world happened after 1991, giving a grand growth episode 1991-2011 (20 years). The best growth episode of India's history was 1991-2011, and Indian exceptionalism was firmly back.

These are large fluctuations of average growth: In the periods 1947-61, 1962-76, 1977-90, and then 1991-2011. This is not a mature society with stable political institutions, with stable elite bargains, where the engine of growth purrs away at a stable long-term compound growth rate. Instead, it's a society that sometimes got its act together with intellectual clarity and an elite bargain, and a growth episode happened.

In the world of business and finance, the horizons in the spreadsheet are three to seven years. Short horizons are often baked into the residual time horizon of the chief executive officer. In this environment, many miss the deeper phenomena that shape business and financial success. Particularly in India, where the tortoise is not assured, strategic thinking in the business world needs to contemplate the social forces, the conditions of the superstructure which are conducive to a growth episode.

Let's peer into the start and end of each of these episodes. Growth episodes are complex social phenomena and resist monocausal explanations. Many things came together in each of them. Each successful period was fashioned by the knowledge and community of the previous 20-40 years. And, the mistakes made in the middle of successful growth episodes sowed the seeds of failure through which the growth episode petered out. We think in terms of sharp demarcating dates such as the China war in 1962. But the seeds of failure of that particular growth episode were well in place in the intellectual failures of the Second Five-Year Plan (1956-61).

For growth episodes in India, the world economy matters. The world economy began into a great period at the fall of the Berlin Wall (1989). There was a global "peace dividend" as defence expenditures went down. The organised assault on liberal democracy, which the Eastern bloc represented, came to an end. Fear subsided. Sensible economic policies emerged in many countries. In an increasingly globalised world, economic strength in each country bolstered that in others. The wise Indian moves in foreign policy and economics, by Narasimha Rao and Atal Bihari Vajpayee, were shaped by that context: They saw the failure of communism and made the break with Soviet Russia and with socialist policies. Unilateral opening up is always a good idea, and it helped that the world economy was faring well in those years.

The world today looks daunting. Seeds of political and economic policy changes that bode ill are visible worldwide. The President-elect of the US has a special relationship with Vladimir Putin. The internet and social media have significantly tilted power in favour of right-wing populism and nationalism. This is unusual when compared with the history of the West.

The intellectual and institutional capabilities of the advanced economies are facing unprecedented challenges in their attempt at maintaining social cohesion and creating conditions of safety and optimism for private persons. Will the tortoise persevere? Is this a small blip comparable with the US Civil War of 1861-65? Will trend growth in the advanced economies falter? This is the grand question of the age. This shapes the context for India. How can we create conditions for a next growth episode? We have to think about the possible adverse impact of global economic difficulties, the vulnerability to Chinese aggression, and the domestic difficulties of intellectual and institutional quality.

The writer is a researcher at XKDR Forum

Trump 2.0 is not a fluke

DOWN TO EARTH

SUNITA NARAIN

What does the second coming of Donald Trump mean for climate-change action? Here is a man who will take over as President of the United States (US), the world's single-largest historical emitter of greenhouse gases and the second-highest annual contributor. He is an avowed climate sceptic — an out-and-out advocate for fossil fuels in a time of climate crisis. He has said he will, once sworn into office, ensure that energy prices are slashed; he will rescind green-energy plans; and wants industry to go back to the time of "drill baby drill" — essentially opening more federal lands to exploration for oil and natural gas and slashing regulatory controls on his country's fossil fuel industry.

But when I say this, we must note that even under the incumbent President, Joe Biden, the US has been the fossil-fuel emperor — producing more oil than any country has done before. It is the world's largest producer of oil and gas — outproducing even Russia by over 40 per cent. So, when Mr Trump says he will go back to fossils, we must understand just how bad this will be!

Mr Trump has also railed against the Biden administration's plans for renewable power and electric vehicles, calling them "industry-killing; job-killing; pro-China; and anti-America". All in all, he wants to go back to the business of the past, rejecting completely the idea that the green transition is necessary as the world stands on a precipice of impending disaster.

The question then is: What next for climate-change action in the US? What next for international agreements that bring the world together to combat climate change? We need to ask this because this time, Mr Trump's victory is not a fluke — in 2016, when he was elected President, the US and the world were uncertain what he stood for and against. Most of us thought it was just bluster. This time, he has come to power with the conviction that his people — the people of the US — want him because of his positions, including the strident denial of climate change. So, we should not be surprised by his actions; instead, the question should be how the world moves ahead to take steps to combat this runaway existential problem.

The fact is that Mr Biden — despite the hypocrisy of his country's massive oil and gas production — stood different from all his predecessors on commitment to climate action. He set a bold target of reducing greenhouse gases 50-52 per cent below the 2005 levels by 2030; and to reach 100 per cent carbon pollution-free electricity by 2035. The Inflation Reduction Act (IRA) was brilliantly conceived to become the driver of investment in clean technologies and green energy. More than anything, the US leadership meant that all countries had nowhere to hide — they were pushed to set targets on reducing greenhouse gas emissions and there was some concerted action as well. Not enough. Not nearly. But the narrative had changed.

The question also is if Mr Trump will pull his country out of the global agreements on climate change — the 2015 Paris Agreement and the UN Framework Convention on Climate Change. It is widely held that he will. All this will weaken the global intent on decarbonisation and for building that cooperative agreement so that countries in the South get financial support for mitigation and adaptation.

This is then the reality that we need to contend with. But let's be clear that all this will happen at a time when the impacts of climate change will grow and devastate more and more countries; people will get more desperately poor and this will add to the insecurity of the world. In today's world, immigration is the driver of the shift towards strong leaders, who will keep out the illegals. This will only worsen as climate impacts intensify. These downward spirals need all of us to act; need global leadership but also strong voices to speak up, not just of the impending doom but also of the possibility of doing things differently. This is the message of hope we need today.

The world has no doubt moved ahead on its journey to build a low-carbon economy and this cannot be reversed so easily. There has been huge investment in green technologies, including batteries and renewable energy, and now there is an interest in this new economy — and China will be an important stakeholder with its massive investment in clean technology. But this said, we need a reboot in the way we in the environmental field have espoused our cause; we need to understand the power of combating climate change. We need new ways towards the green transition, which is affordable and inclusive — not just in the countries of the South but also in the industrialised North. This is the message we need to take from Mr Trump's election — it's loud and clear and we can ignore it at our common peril.

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Consumerism and the feedback loop

BOOK REVIEW

ALEXANDRA JACOBS

We have reached peak feedback. The customer is not only always right, but always writing, rating. The bank, the phone company, and the hospital want us to evaluate our experiences with them on a scale of 1 to 10. There are Yelp reviews of Planet Earth.

The constant assessment of daily life is among the all-too-familiar but strange developments scrutinised by Emily Mester in her unsettling first book, a collection of personal essays about consumption called, in contrast to its slimness, *American Bulk*. Even at the grave, she notes, buyers are weighing in on the many choices of coffin: "One wrote ominously: I will purchase again."

Writing as the alter ego "Em" — folksy or menacing, depending on how you squint — Mester herself used to post online reviews of scratchy throw pillows, bad haircuts, a mean history teacher, until a restaurant owner responded to explain the human struggle behind a disappointing burrito.

Looking for confirmation of her choices begins to seem, as the young 'uns say, sus. "In my attempts to reduce the frictions between me and certain objects," Mester writes, "I'd multiplied the frictions that invariably remained. If I believed there was a best body wash, I had to fear the worst."

Death by synthetic fruit scent? *American Bulk* is framed by Mester's family dynamic, all roads leading to Storm Lake, Iowa, the long-time home to her paternal grandmother — an English teacher, and champion tightwad — who collected freebies eventually to the point of hoarding, and finding the sameness in places including South Carolina and New York City, where the author now lives. Another towering figure in the book is her father, a MAGA Republican and successful lawyer who used to take his five children to Costco instead of church on Sundays. "Chain restaurants are soothing," Mester theorises, "because they are the same everywhere, like hymns."

Her worship of junk food as a teen landed her in a fat camp, which she describes in *Live, Laugh, Lose*, one of the less original essays, but worth reading for its correctly shuddering assessment that "raw tomatoes are enemy No. 1 for picky eaters."

Mester and her father, too, accumulate mountains of stuff, in different ways: She dithers over her purchases and (often agonisingly) returns them, seeking joy; he amasses, in a spirit of practicality, and sometimes just walks away from the piles. "The American Dream, as we know it, is abundance," she writes. "But it is an equally American dream to be able to abandon, drop everything, to jettison, without guilt, anything that weighs you down."

AMERICAN BULK: Essays on Excess
Author: Emily Mester
Publisher: Norton
Pages: 240
Price: $17.99

This is not the book to turn to for the true and gruesome ecological consequences of wastefulness. But it excels at restoring texture to the smooth banalities of our consumer existence. Mester is like a Midwestern Baudrillard, distinguishing between the "earthy bourgeois glamour of Whole Foods," "Target's warm graphic buoyancy" and "the hot American urgency of 7-Eleven." She notes how brands have leached the beauty from phrases like "olive garden," "mountain dew" and "hidden valley." Succinctly and painfully, she describes how new efficiencies in the meatpacking business and a farm crisis in the 1980s decimated main streets and small towns.

Mester was an indifferent boarding school student who felt alien to the "windblown, affable" prepsters (she wears her lesbianism lightly) — and unlike her dad, who left the Ivy League with resentment and credit card debt, returned to Iowa for college and graduate school.

Before starting the University of Iowa's programme in nonfiction, she got a job as a sales associate at Ulta, the cosmetics emporium, where "the customer is king, the CEO is divine, and between them, like an isthmus, stretches your cheerful smile." She scrubbed toilets and still marvels at the corporate jargon: "A shelf was a *gondola*, a shelf was an *endcap*, a shelf was an *étagère*."

An office internship later on involved writing for standardised tests, during which she rarely exceeded a step count of three figures, only putting the phone down, reluctantly, to defecate, undress and sleep.

That screens can consume the entirety of one's existence is hardly news in 2024, but Mester's confessional, her sustained examination of the shame of shopping more than you need to, has dash and daring. There are underdeveloped stretches, like in the still-bustling malls the book patrols, but *American Bulk* is always alert to the sudden sign that reveals meaning amid all the merch.

The reviewer is a Times book critic and occasional features writer

KRANTI NATION

PRANJAL SHARMA

Credit rating agencies turn to AI for help with data

Understanding complex financial numbers to assess the financial health of organisations is not an easy task. Solutions based on artificial intelligence (AI) are now helping rating agencies predict the future with better results.

"CareEdge Ratings has been at the forefront of integrating AI and ML (machine learning) into its credit rating processes. By leveraging AI-driven predictive analytics, CareEdge Ratings enhances its ability to assess credit risk with greater accuracy and efficiency," says Mehul Pandya, managing director and group chief executive officer of the agency.

"The agency employs advanced AI models to analyse a wide range of data sources, including financial statements, market trends, and alternative data, to provide comprehensive and reliable credit ratings." The agency says that it uses tools for natural language processing – the ability of a computer programme to understand human language as it's spoken and written – to automate the extraction and analysis of financial disclosures, filings, and news articles. The capability improves the agency's ability to assess sentiment and identify potential risks, providing more accurate and timely insights about credit risk.

AI and machine learning tools can analyse a variety of information like financial statements, market trends and price fluctuations. They continuously learn and adapt

Pandya explained how AI enabled CareEdge to improve its assessment of the operating margin of a tyre manufacturer. The agency wanted to enhance the quality of its credit ratings by leveraging AI and ML to predict the impact of commodity price fluctuations, particularly rubber, on the operating margins of the company. CareEdge gathered extensive data on global economic indicators, rubber prices, and the manufacturer's financial performance. This data was integrated into a centralised system for comprehensive analysis.

Key factors influencing rubber prices were identified using ML algorithms. These included supply chain disruptions, geopolitical events, and demand changes in the automotive industry. Then advanced ML techniques, such as regression analysis and time-series forecasting, were employed to predict future rubber prices. These models were continuously refined with new data to enhance their accuracy.

A simulation model was developed to assess how predicted rubber price changes would affect the tyre manufacturer's operating margins. Various scenarios, such as price spikes or supply shortages, were analysed to understand potential impacts. These steps helped rating analysts and a committee to ascertain the maximum impact on operating margins and cash flow for tyre manufacturers. The result was improved decision-making for internal assessments and support in the quality of ratings. AI and ML models were later integrated into a real-time monitoring system to provide ongoing updates and alerts about significant changes in macroeconomic conditions or commodity prices.

Pandya says that credit rating agencies rely heavily on financial statements, historical data and expert judgment to assess credit risk. While these methods provide valuable insights, they are often constrained by the static nature of the data and human bias. The integration of AI and ML tools has revolutionised the rating process by enabling the analysis of vast and diverse datasets in real time, and therefore enhancing the accuracy and timeliness of credit ratings. According to Pandya, these models can continuously learn and adapt, improving their predictive accuracy over time. For instance, AI can identify patterns and correlations that may not be evident to human analysts.

Use of GenAI, a type of AI that can create new content, such as text, images, videos, or music, for credit rating is being adopted globally. A McKinsey Survey of chief credit risk officers found rising interest in AI. According to the survey, 20 per cent of such respondents had already implemented at least one GenAI use case in their organisations, and a further 60 percent expect to do so within a year. The survey said that even the most cautious of these executives believe that GenAI will be part of their companies' credit risk work in two years.

The survey emphasised that due precautions must be taken to ensure that valid data is used and the algorithms must be designed fairly to minimise biases.

AI MODELS HELP FINANCIAL INSTITUTIONS IN UNDERSTANDING DELINQUENCIES AND SPEED UP DISBURSEMENTS

Indian fintech put its money on AI

Companies use technology for purposes as varied as cashier-less payments and credit assessment, reports AJINKYA KAWALE

India's decade-old fintech sector is putting artificial intelligence (AI) at the heart of its work, using the technology for purposes as varied as credit assessment and understanding complex data.

Gandhinagar-based Infibeam Avenues, a key player in the payment aggregation space through its CCAvenue brand, is just one fintech company investing heavily in AI. The company reported a 27 per cent yearly growth in consolidated revenue, reaching ₹944.5 crore in the second quarter of FY25. Its expenses increased by ₹900.5 crore, driven by "forward-looking investments" in AI-powered innovations, according to Vishal Mehta, chairman and managing director of Infibeam Avenues.

"In AI, the first place we are investing in is video intelligence. We are creating systems where the [AI] model can understand video, the context within that frame, scene identification and activity within an input. Once that is done you can enable payments on top of it," said Mehta.

'Uberisation of payments'

He calls the model "Uberisation of payments". It will be like the cashier-less technology at Amazon Go stores: Companies like Infibeam will enable customers to make payments using video intelligence technology that tracks and monitors items added to their shopping carts.

Infibeam's Phronetic.AI division has secured $1 million contracts from hospitals and gas stations to deploy similar services.

"For example, at gas stations we have the dispensation data and if I know the vehicle number and there is a payment instrument tied to it, it becomes seamless to conduct a transaction without having the driver to undergo any hassle," said Mehta.

Chennai-based fintech Kaleidofin assists financial institutions with its credit assessment model that is tailored for the informal sector and uses data models built on AI and machine learning (ML) rails across 30 million plus data points.

"We have invested in data pipelines, in big data systems and as it becomes more scalable, we are able to ingest alternate data sources. We don't just work on one data set or a customer segment, but we are able to cross cut data across multiple segments and see if there are similarities in these spaces," said Natasha Jethanandani, co-founder and chief technology officer (CTO) of Kaleidofin.

The company's Kaleidofin Inclusive (Ki) score model offers credit assessment in the informal and underbanked sector. The AI/ML-based model uses demographic, geographical, credit history, savings and payments data to provide lending institutions with a probability of a delinquency for customers before extending credit.

AI models help financial institutions get a view of delinquencies, streamline rejections, and speed up disbursements.

"Tractor financing is a product that we participated in. The number of days to issue a disbursement has gone down from 15 days to less than two days. Rejection rates have come down to 15-25 per cent, from around 45-50 per cent, while still ensuring strong risk management, since the right type of credit is reaching the right people," said Jethanandani.

Data points for the finance sector can include sanitation, drinking water, education, household income in an area and weather.

More than $3.5 billion worth of loans have been underwritten based on Ki, according to Kaleidofin.

Generative artificial intelligence (GenAI), which can create new content, such as text, images, videos, or music, is helping in complex data.

Help with data

"We will also see developer experience becoming richer. Developers are kind of big users in our customer base. A lot of configurations, data, understanding and setup will become simple and natural similar to the way we converse," said Khilan Haria, senior-vice president and head of payments, product at Razorpay, which offers payment gateway services for online merchants.

For small customers, AI tools enable them to perform tasks such creating a payment link, automatically generate code snippets and assist merchants to integrate with payments platforms.

"Let's say if you have built a system on top of React, Native and Python. You can auto generate a code with our concierge. You can understand who are the customers who have made payments from certain geographies across a specific timeline, and get actionable insights on particulars such as refunds, for example," said Haria, referring to developer use cases.

Fintech has to be careful in using GenAI, some in the industry have said. Rahul Chari, co-founder and CTO of PhonePe, believes that while one should be excited about GenAI, they also have to be very cautious.

"The reason I say that we have to be cautious when it comes to GenAI is because of the need to have explainability in, say, underwriting. This can lead to biases and it can go against financial inclusion," said Chari in an earlier conversation with *Business Standard*.

He believes that GenAI can be used as part of the development life cycle to increase productivity. Testing, documentation and observability are some of other areas where the technology can be used. "We have been envisioning using GenAI in insurance. For instance, the finer details of policy documents sometimes run into 15, 20 or 30 pages... can we make this conversational. Wherein the customer can ask questions and they get conversational questions and answers," he said.

ALGO RHYTHM

WEBSITES, APPS, COMPANIES: CYBERATTACKS SPARE NONE

India faced more than 1.2 billion cyberattacks in the third quarter of 2024, marking a 92 per cent increase from the year before. The onslaught included 271 million attacks on APIs, according to report by application security firm Indusface. API is short for application programming interface, a set of rules that enables software applications to communicate with each other. Attacks on APIs were 85 per cent more frequent than those on websites. DDoS attacks – in which a cyber attacker floods a server – on APIs increased 3,000 per cent, said the report.

Attack after attack

1.26 bn+
cyberattacks blocked in India, July-Sept

92%
increase in number of cyberattacks in a year

217%
rise in attacks by bots, which are autonomous software apps

171%
increase in attacks on website vulnerabilities

Sectors in cross hairs

- 4-fold more attacks on India's power sector than global average
- 2-fold more attacks on country's BFSI sector
- 50% more bot, vulnerability attacks on retail firms than DDoS
- 100% of health care sites in India report bot attacks

At risk for long

900,00
attacks on average blocked per website in Q3

19,000
'critical' vulnerabilities found in websites

33%
vulnerabilities were open for 180 days

6 out of 10 websites suffered a DDoS attack

9 out of 10 sites reported a bot attack

Source: Indusface's 'State of Application Security Report'

Compiled by Shivani Shinde

'Hitachi takes AI solutions from India to the world'

Hitachi, the Japanese conglomerate, has a range of businesses in India: From railway systems to energy and IT solutions. The company takes its learning in India to the rest of the world, said **BHARAT KAUSHAL**, corporate officer of Hitachi Ltd. and managing director (MD) of Hitachi India. Kaushal, in a video interview with **Pranjal Sharma**, spoke about research, semiconductors and his company's plans. Edited excerpts:

Q&A

BHARAT KAUSHAL
Corporate officer of Hitachi Ltd; MD of Hitachi India

Hitachi has been in India since the 1930s. What a fantastic journey it has been, isn't it?

India was the first overseas presence of Hitachi anywhere in the world – it was in 1933. The first locomotive for the Indian Railways, in 1953, came from Hitachi. The turbines of Bhakra Nangal dam (in Himachal Pradesh) came from Hitachi. The first telephone exchange in India was set up by Hitachi. So there is a lot of history with pride in partnering the whole journey that India has had since independence. We are now spread across India through companies which are in infrastructure, which are in manufacturing and which are also in digital (systems).

Can you give us the various sectors you straddle in India?

Let me start with infrastructure. Infrastructure for us means rail business, energy business, urbanisation-driven businesses like city gas, water and steel. These have all gone through a very nice evolutionary journey in the Indian context. We have also become the largest rail company in the world with Ansaldo, the Italian giant, joining the Hitachi family; Thales, the French company – and the largest energy transmission company, with ABB's original power grid business becoming Hitachi Energy.

What kind of learning are you getting from these projects that could be scalable globally?

(That) is why we say that it's of course India for India and India for the world, because the learning that you get to make now in India are not restricted to very, very baseline industries. But there is a lot still to be done on assisted intelligence and augmented intelligence. But automated intelligence and autonomous intelligence is a space where Indian industry is getting recognised increasingly. We've been helping the Hitachi teams elsewhere in the world, including in North America, in rail and energy and other businesses.

It seems that India is important to Hitachi from a research and development (R&D) perspective

R&D is a very wide canvas for a company like us. There is the advantage of a global repository of what R&D means...but there is also a centre of excellence; a global centre of excellence for artificial intelligence-related solutions that we take from India to elsewhere in the world.

How many countries or how many markets depend on India for some of these insights?

I would not like to put a number on it because India teaches you every day. We had 45 per cent of national highway tolls running on our systems because of our ticketing and other experiences. That experience went to the Paris Olympics to do the access control there with the command and control centre here.

What is Hitachi's role going to be in India semiconductor efforts?

Well, that role is evolving. We are the original supercomputer and semiconductor people – at that time, when it all started, it was 2 billion computations in one nanosecond. The world speed has gone up to 2 trillion in a nanosecond now. It is touching perhaps every element of the value chain in manufacturing that we are associated with. We are still amongst the largest manufacturers of (computer) wafers, for across the biggest giants, whether it's the Taiwanese, the Samsung, the Intels or anyone in the world. The Indian effort is going in both directions, correctly so. The consumer side, as well as the heavy engineering-driven solutions.

There is discussion with all players...because we can add value and we can also be a big market for the pricing and the cost that we will be able to achieve in India. We are excited about how the prioritisation of semiconductors is happening in the government policy.

What do you think will drive Hitachi's growth in India?

India is a story today of where you have the elements. As a banker in the past I can say where there are businesses which are growing, where cash turns three times in a year to where cash doesn't churn once in three years. If you have the bandwidth of tolerance, they're all getting connected.

Watch full interview here: mybs.in/000121FH

THE ASIAN AGE
9 DECEMBER 2024

Assad regime's fall in Syria changes Mideast dynamics

In a trice everything changed in Syria as the 50-year rule of the Assad family ended and the government collapsed, caving in to a lightning offensive of the rebels. The power equations in one of the world's hottest of hot spots changed instantly with President Bashar al-Assad fleeing the country and leaving the superpowers and regional powers with an interest in Syria rapidly reassessing their positions in a region of raging wars and conflicts.

Having propped up the repressive Assad regime for 14 years during a civil war with troops to support his forces and jets to bomb his enemies of whom there were many in his own country, the Russian patrons of the dictator seemed to look the other way. Russia's attritional war with Ukraine may have seen it being too preoccupied to react in time as a coalition of rebels advanced in just days from the northwest of the country through Aleppo, Hama and Homs to the gates of Damascus.

Iran, a steadfast backer of the dynastic autocrat Assad, had built military bases and weapons warehouses and missile factories in Syria even as it used its supply chain to arm Hezbollah in Lebanon. Iran had lately been so concerned with what is coming in Trump's America that it seemed to hold back the Hezbollah militia from helping the government defence of cities, which quickly became non-existent as soldiers shed their uniforms or surrendered to the rebels.

So confident were the rebels of their advance just three days ago that they rang our newspaper office asking whether a reporter could fly out to Damascus to observe their victory

So confident were the rebels of their advance just three days ago that they rang our newspaper office asking whether a reporter could fly out to Damascus to observe their victory. The ripples of their stunning victory that was capped by the Prime Minister Mohammad Ghazi al-Jalali offering to facilitate the regime change will be felt not only in Israel, Iran and Turkey, all of whom had taken a hand in assisting the fight in one way or the other, but also in war-weary Russia and in the US where incoming President Donald Trump has said that the Americans have nothing to do with what is going in Syria now.

The change in tune of the leader of the Sunni rebels of Hayat Tahrir al-Sham, Ahmed al-Shaara, may be music to the ears of those who support democratic ways as he promised to preserve the Shiite shrines and strive to ask for the formal support of the people soon. Of course, this represents a dramatic transformation as his HTS is still listed as a "terrorist organisation" by the United States. After having fought years to contain ISIS in Iraq, the US said it will maintain a presence in eastern Syria to ensure that the group stays defeated.

No country will be more pleased than Israel whose security anxieties may be mitigated with one less front to anticipate attacks from and which could use the development in Syria to extend its dominant presence in the region. The greater fear is whether the country will now become a more dangerous haven as a base of terrorism as myriad militant groups are in play as well as the prisoners of Syria, who were tortured in the Assad regime's labyrinthine jail system, and who were all released in a day — free to pursue their own interests, militant or otherwise.

SC must reinforce Worship Act

After temporarily halting the exercise started by a section of Hindutva apparatchiks targeting a Mughal era mosque in Sambhal in Uttar Pradesh, the Supreme Court has followed up on it and formed a special bench to hear petitions against the Places of Worship (Special Provisions) Act, 1991. It's a welcome decision. The cases will now come up for hearing this week itself.

The aim of the law was explained in detail by the government while moving it in Parliament: India comprises people of diverse origins and its history is bitter-sweet; it's futile to go back, dig up the past and settle the accounts of bitterness in a spirit of adversity; and we as a nation should carry the sweetness of the past in the new spirit of constitutionalism and the fraternity it advocates.

The law set the threshold on August 15, 1947, for obvious reasons. It is no secret that the Parliament enacted it in the background of the acrimonious demand for razing the Babri Masjid and building a Ram temple in its place. It was aimed to protect the religious character of the other places of worship.

And while it is true that the religious character of a place can be protected only if it is determined, the law has provided no specific guidelines for the process to do so. Yet some smart alecks have come up with the curious notion that digging up a place of worship can throw light on its religious character as of 1947.

Now, conscientious courts could have dumped such an interpretation of the law at the very outset. For, digging up the past would defeat the very purpose of the law as well as the intent of the lawmakers who framed it, but it was not to be. Surveys and digging on the orders of courts have started at different parts of the country at a frenetic pace instead. It is also on the strength of a remark made by a former Chief Justice while hearing a related case.

This charade must end. Either Parliament or constitutional courts can amend or read down the Act, or everyone must follow the law. Undermining the law through nefarious means and underhanded ways will be detrimental to the very idea of the rule of law. A decision by the apex court will help clear the air.

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Subhani

Driving our foreign trade beyond the Trump bump

Sanjaya Baru

Sanjayovacha

Mr Subrahmanyam recently set the cat among the policy pigeons by suggesting that India reconsider its decision to stay out of the RCEP, an East and Southeast Asia-wide regional trade bloc dominated by China

The impending return to the White House of US President-elect Donald Trump promising high tariffs has raised the alarm around the world and not just in China. America's neighbours Mexico and Canada are to be the first to be targeted for action because many other countries have used these two locations to enter the US market. In his first term, Mr Trump was tough with India too, raising tariffs on steel and eliminating the generalised system of preferences (GSP), a preferential window that many Indian exporters used to get their goods across to the United States. While saying nice things about India and Prime Minister Narendra Modi, Mr Trump has indicated that his trade negotiators would again take a close look at India's tariffs.

The return of President Trump is not the only challenge India is facing on its foreign trade front. To begin with, India has a structural imbalance in foreign trade, especially merchandise trade, that it has not been able to deal with satisfactorily.

This is that on the one hand it enjoys a surplus on the trade account with the United States, and this irritates the US; and, on the other hand, it is burdened by a huge and rising trade deficit with China.

The US wants India to buy more from it, while India wants China to buy more from it. Neither wants have been fulfilled given the structure of the three economies.

The US could well argue that India is managing the trade deficit with China thanks to its trade surplus with the US. Moreover, given the importance of trade in services in the US-India bilateral relationship, any reduction in H-1B visas and the immigration of Indian professionals could also hurt India.

India has tried to address the American complaint by buying more defence and aerospace equipment from it. It is now trying to address the problem with China by allowing Chinese investment in India. That would not only reduce imports, through localising manufacture, but will also help boost exports, if Chinese companies make India a base to be able to deal with any Western attempts at de-risking and decoupling.

The war in the Middle East will continue to exert pressure on global crude oil and food prices. There are then new concerns emerging relating to climate change and carbon trading. Taken together, trade policy confronts many challenges. It is against this background that the Niti Ayog, the Union government's policy think tank, has published a document entitled "Trade Watch", analysing the data for April-June 2024.

Several things make this document interesting. First, it is an official analysis of trade coming from outside the ministry of commerce. Second, it is quite candid in its analysis of the challenges. Third, and most importantly, it has the imprimatur of the Niti Aayog's chief executive officer, the irrepressible B.V.R. Subrahmanyam. Both the Niti Aayog chairman, Suman Bery, and its distinguished economics member, Arvind Virmani, have patted Mr Subrahmanyam on the back for leading this effort, carried out by the Niti Aayog staff.

Few may know that Mr Subrahmanyam, an IAS officer who has studied at the London Business School, developed expertise in trade policy during his stint in the commerce ministry in the early 2000s. In 2004, he was scheduled to take up an assignment at the World Trade Organisation, Geneva, when he was picked by Prime Minister Manmohan Singh to be his private secretary. Given his long-standing interest in trade policy, he was later made Union commerce secretary and was responsible for many new ideas on the trade front. Clearly, he is pursuing his interest in trade policy even at the Niti Aayog.

Mr Subrahmanyam recently set the cat among the policy pigeons by suggesting that India reconsider its decision to stay out of the Regional Comprehensive Economic Partnership (RCEP), an East and Southeast Asia-wide regional trade bloc dominated by China. On the specific issue of dealing with the trade imbalance with China, "Trade Watch" says: "India has to navigate the disruptions in the global supply chain, and be wary of China dumping its products in Indian markets. On the other hand, India is seen as an attractive destination for companies looking to shift their manufacturing bases out of China. This shift offers India a chance to enhance its domestic manufacturing capabilities, particularly in high-tech industries." This view echoes that of the Union government's chief economic adviser, Dr V. Anantha Nageswaran. Given the recent thaw in India-China relations, we should expect action on this front.

Expressing concern about Indian industry's limited success in capturing the "China Plus One" opportunity, which countries like Vietnam, Thailand, Cambodia and Malaysia have, "Trade Watch" candidly lists factors that may have been responsible for this. These economies have cheaper labour, simplified tax laws, lower tariffs and are proactive in signing Free Trade Agreements(FTAs). They also score over India both in the "ease of doing business", especially trade facilitation, and in labour productivity. What the analysis suggests is that while President Trump will pose a challenge on the foreign trade front, he is not the only bump. Domestic factors continue to restrict Indian trade competitiveness.

President Trump will of course try to "weaponise" trade policy. It has been done before. In the 1980s, the target was Japan. Heavy equipment was used ranging from US laws Special and Super 301 to what were euphemistically called "voluntary export restraints" (VER). The slowdown of the Japanese economy in the 1990s was a direct consequence of all those trade actions. The distinguished trade economist, Dr Jagdish Bhagwati, famously wrote about "The Return of the Reciprocitarians", on the trade front during the Ronald Reagan presidency. Mr Trump has many old Reaganites around him. Slogans such as "Fair Trade. Not Free Trade" were heard a lot at that time before a new "Washington Consensus" promoted globalisation and trade liberalisation.

The problem for Prime Minister Narendra Modi is that he is stuck between trade protectionists within the RSS-BJP fold and the liberalisers among the economists his office has hired for various jobs in the government. Dr Bery, Dr Virmani and Mr Subrahmanyam, at the Niti Aayog, have all been advocates of a more liberal trade policy. It remains to be seen what views will come to prevail in dealing with the US and China challenge on the trade front.

The writer is an author, a former newspaper editor and adviser to Prime Minister Manmohan Singh

LETTERS

ADANI LIABILITY

It would be tragic if the Government of India chooses to go against the US on the issue of the allegations against the Adani Group. America has expressed its disappointment on talk of having a vested interest in destabilising India. Is the government ready to risk its friendship with the US for the sake of Adani? Although our PM and Donald Trump share an amiable relationship, there is no saying how he will react. The BJP can diss Rahul Gandhi for suspicious meetings all they want, but doing the same with America is another matter. Any strain in the relationship between the two nations will only benefit neighbours China, Pakistan and Bangladesh.

Anthony Henriques
Mumbai

UNFAIR OFFICES

THE SUPREME COURT'S recent directives to government departments and PSUs to fully implement the POSH Act, 2013, underscore the persistent neglect in this area. Despite the law being in force for over a decade, institutional apathy has hindered its enforcement, as highlighted by lapses such as the absence of ICCs in many organisations, including accredited sports bodies, and inadequate responses to incidents like the rape and murder of a trainee doctor in West Bengal. The court has now set deadlines. But compliance remains weak.

Amarjeet Kumar
Hazaribagh

KAMBLI'S FALL

IF THERE is one Indian cricketer who has fallen from grace and ruined his life through his own wrongdoings, it is Vinod Kambli. Kambli's cricketing career, once full of promise, faltered due to his off-field excesses. However, it was an emotional moment when Kambli was seen clutching his childhood friend Sachin Tendulkar's hand and refusing to let go during a recent memorial event dedicated to their coach, Ramakant Achrekar.

R. Sivakumar
Chennai

₹500 for the best letter of the week goes to Anthony Henriques (Dec. 5). Email: asianage.letters@gmail.com.

Aisha Khan

Strategic dilemma: How hope in Paris got transformed to Baku total despair

Living in a complex world and looking for simple solutions is like deep-sea diving without oxygen and blaming your lungs for limited breathing capacity.

The recently concluded COP29 has earned flak for not moving the needle forward on many agenda items, with countries expressing loss of faith in the multilateral system and decrying the slow pace of progress in negotiations. This outcry is the result of years of frustration with a system that does not have the mandate to push majority decisions, and instead, allows a few countries to be power brokers.

A combination of factors this year led to the massive disenchantment with multilateralism. What started in 2015 with euphoria and hope of a fair future for all in Paris ended in despair and disappointment at Baku.

There is a history of escalating events behind the indignant mood. The year 2024 was the third consecutive warmest in a row, with alarming palpability of climate change impacts felt across the planet from Africa to Asia and Europe to the Americas. With parts per million of carbon dioxide increasing in the atmosphere instead of decreasing, the Greenland and Antarctic ice sheets melting more rapidly, acidification reducing 56 per cent of the oceans' capacity to store carbon, permafrost thawing unlocking vast reservoirs of soil organic carbon, and sea level rise threatening survival of island and coastal states, fear and panic are sweeping across communities, forcing nations to take a more strident view of negotiated climate decisions.

The other reason for frustration is the disconnect between grand-sounding statements and positions taken at the table by rich countries. There is no point of convergence between expressions of solidarity for "development that leaves no one behind" and gavelling decisions that leave more than half of humanity mired in poverty, debt and exposure to high risks.

However, with all the heartache and heartburn, accompanied by strong condemnation of an unfair system, the fact remains that there is no other option for vulnerable countries than to work with and through the multilateral system to get the best possible deal from a rapidly worsening situation.

All recent developments (political, economic and environmental) are an indication that we are fast moving towards a new order in which transactional relationships will determine actions and dominate decisions. With the re-election of Donald Trump, a massive shift in approach with strong leanings towards self-preservation will become an important part of the new playbook for engagement.

As the world faces acute food and water security challenges, geopolitics will no longer be about globalisation, free markets or nonaligned diplomacy. The new political model is likely to support inward thinking, impose trade barriers and forge alliances to protect core vested interests.

The Global South is not likely to get a fair deal. Instead, vulnerable nations will come under increasing pressure to accept decisions deemed inadequate and unjust with a take it or leave it choice. Talking about debt and poverty trap will not cut flak either as countries with money will set their own terms and conditions for transactions.

Seen through this precarious lens, countries will have to move beyond reliance on multilateralism to find other ways of tackling existential threats by forging regional and bilateral alliances to strengthen resilience. Reducing existing tensions and building trust can be one step in this direction.

For South Asia, caught in the web of a geography with an interconnected mountain system (Himalaya, Karakoram and Hindukush) that serves as a common source of water to HKH countries, and marred by political disputes the region can no longer afford, poses a strategic dilemma. Should it remain defiantly gridlocked in age-old positions at the risk of destabilisation or move beyond the politics of hate and division to embark on a future of hope? The strategic choice between pragmatism over passion and flexibility over rigidity will play a defining role in determining future stability in South Asia. The alternative is a humanitarian crisis.

Any illusion of outside help should at best only be construed as a mirage. The stark disparity between the support for Ukraine and the lack of empathy for Palestine is a wake-up call on where the world stands on morality. Shorn of political veneer, it is nothing more than a band-aid to mask grievous injury.

The warmer the world gets, the colder hearts will become, making the planet inhospitable in more ways than one.

The most strategic lesson from COP29 is to take a realistic view of geopolitics and reset agenda to adapt politically and economically to the new global reality.

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The new Oilfields Bill, concerns it raises about states' rights

AJOY SINHA KARPURAM
NEW DELHI, DECEMBER 8

EXPLAINED POLICY

RAJYA SABHA passed the Oilfields (Regulation and Development) Amendment Bill, 2024 (Oilfields Bill) last week. It seeks to amend the Oilfields (Regulation and Development) Act, 1948 (Oilfields Act), which governs the exploration and extraction of natural gas and petroleum in the country.

The Centre expects the amendments would encourage domestic production of petroleum and other mineral oils, and push private investment in these sectors to reduce India's reliance on oil imports. However, Opposition parties have criticised the Bill for several reasons.

What amendments the Bill seeks to introduce?

The Bill seeks to introduce four major amendments to the Oilfields Act. These are:

Expanding Definition Of Mineral Oil: Currently, in the Act, petroleum and natural gas are the only two that have been defined as mineral oil. The Bill expands the definition to include any naturally occurring hydrocarbon, coal bed methane, and shale gas/oil. However, the Bill clarifies that the definition will not include "coal, lignite and helium occurring in association with petroleum or coal or shale".

Introducing Petroleum Lease: The Act defines and regulates a mining lease. The Bill seeks to replace it with a "petroleum lease", which has been defined as "prospecting, exploration, development, production, making merchantable, carrying away or disposing of mineral oils". All the mining leases currently in use will remain valid and none of the leases will be "altered to the disadvantage of the lessee during the period of the lease".

Expanding Centre's Regulatory Powers: The Act gives power to the Centre to make rules on matters such as the grant of leases, deciding the terms and conditions of the lease, conservation and development of mineral oils, methods for producing oil etc., according to the legislative research organisation PRS. The Oilfields Bill retains these provisions and further expands the Centre's power by allowing it to make rules for leases to reduce greenhouse gas emissions, sharing of oil production and processing units, merger of leases, and resolving disputes on leases.


ONGC processing platform at the Mumbai High offshore oilfield. *Wikimedia Commons*

Decriminalisation Of Offences: The Bill seeks to scrap criminal punishment for those who contravene provisions of the Oilfields Act, replacing it with fines. Currently, under the Act, any violation of its provisions or connected rules passed by the Centre may be punished with up to six months imprisonment and a fine of Rs 1,000. The Bill instead mentions a penalty of up to Rs 25 lakh, with the possibility of a further penalty of Rs 10 lakh per day starting from the date of the first penalty if the violations persist. The Bill also adds the following offences: undertaking activities related to mineral oils such as exploring, prospecting, and production without a valid lease; and non-payment of royalty, according to PRS.

Why is the Bill being criticised?

Several Opposition parties have raised concerns about how the Bill would affect the rights of states. For instance, Dravida Munnetra Kazhagam (DMK) MP N R Elango said that the word "mining" is being "replaced only to take away the rights of the states". He demanded that the Bill be sent to a Select Committee of Parliament for review.

On July 25 this year, a nine-judge Bench of the Supreme Court held that states had the exclusive power to tax mining activities and collect royalties from mining leaseholders. This power, the court held, stems from Entry 50 of the State List in the Indian Constitution, which gives states the power to impose taxes on "mineral rights".

However, if mining leases are replaced with petroleum leases in the Oilfields Act, the law would fall under Entry 53 of the Union List. This gives Parliament the power to create laws regarding the "Regulation and development of oilfields and mineral oil resources; petroleum and petroleum products; other liquids and substances declared by Parliament by law to be dangerously inflammable".

Another concern is that the provisions of the Bill give private players a certain amount of discretion in how they operate. This would happen as the Bill removes the possibility of criminal punishment, according to Communist Party of India (CPI) MP P P Suneer. He said that public sector undertakings such as the Oil and Natural Gas Corporation (ONGC) should be given priority over private players.

Critics have also claimed that a larger role of private companies in the oil and petroleum sectors could lead to severe environmental impacts.

EXPLAINED SCIENCE

MOTHS MAKE REPRODUCTIVE CHOICES BASED ON HOW PLANTS SOUND: STUDY

EXPRESS NEWS SERVICE
NEW DELHI, DECEMBER 8

MOTHS CAN hear sounds emitted by plants and rely on them to choose which plant to lay eggs on, says a new study.

The analysis, 'Female Moths Incorporate Plant Acoustic Emissions into Their Oviposition Decision-Making Process', was published online last month. It has been carried out by a team of 17 researchers based in Israel.

Rya Seltzer, an entomologist at Tel Aviv University in Israel and one of the authors of the study, told *The New York Times*, "This is new… Plants emit sounds, and insects are really listening to that. They are tuned to that specific sound, and they know the meaning, and they consider it."

Last year, a study revealed that some plants cry a mournful melody made of ultrasonic clicks or pops when dehydrated or under some other kind of stress. These sounds are undetectable to the human ear but can be heard by other animals, including insects.


A moth species called Egyptian cotton leafworm can hear sounds emitted by stressed plants, the study said. *Wikimedia Commons*

How was the new study carried out?

After last year's discovery, Seltzer and her team began to examine if a moth species called the Egyptian cotton leafworm used clicks produced by stressed plants to decide where to lay their eggs — one of the most important decisions of their lives.

"All of her children are going to develop on that specific choice that she made, and she has to make a fast call and a very good call," Seltzer told *The NYT*.

The team first demonstrated that female leafworms choose healthy and thriving plants to lay their eggs on as they are more likely to provide enough food for the newborn larvae, instead of a dehydrated plant. Once that was established, they analysed the role of clicks in the crucial decision-making done by these moths.

For this, researchers used a hydrated tomato plant on one side of an experimental arena. On the other side, they kept another healthy and hydrated tomato plant but it emitted recorded sounds of distress.

What were the findings of the study?

The researchers found that the moths preferred to lay their eggs on the "silent" plant. This meant that the female moths were not only able to recognise signals that indicate the presence of a plant but also interpret them to decide where to lay their eggs, according to Seltzer.

Jodi Sedlock, a sensory ecologist at Lawrence University in Wisconsin, told *The NYT*, "They have done an incredibly good study… I think they provide very strong evidence that these moths, this species, is attending to those sounds emitted by plants." However, Sedlock added that "the reason that they are attending to them is not entirely clear yet."

Seltzer did admit that more research is required. The next step will be to see how moths might use these acoustic cues in combination with scents and other signals from a plant.

(With inputs from The New York Times)

EXPLAINED ECONOMICS

FDI flows, forex reserves

India's balance of payments, despite volatile FDI flows, is in better shape now with a relatively low current account deficit that can be financed by some drawdown of forex reserves at worst

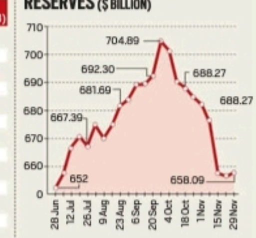

HARISH DAMODARAN

KEY COMPONENTS OF INDIA'S BALANCE OF PAYMENTS ($ BILLION)

Year (Apr-Mar)	Trade Deficit (1)	Invisibles Surplus (2)	CAD (1–2) (3)	Capital Inflows (4)	Reserves Increase (4-3)
2011-12	189.76	111.6	78.16	65.32	-12.83
2012-13	195.66	107.49	88.16	91.99	3.83
2013-14	147.61	115.31	32.3	47.8	15.51
2014-15	144.94	118.08	26.86	88.26	61.41
2015-16	130.08	107.93	22.15	40.05	17.9
2016-17	112.44	98.03	14.42	35.97	21.55
2017-18	160.04	111.32	48.72	92.29	43.57
2018-19	180.28	123.03	57.26	53.92	-3.34
2019-20	157.51	132.85	24.66	84.15	59.5
2020-21	102.15	126.06	-23.91	63.37	87.29
2021-22	189.46	150.69	38.77	86.27	47.5
2022-23	265.29	198.24	67.05	57.92	-9.13
2023-24	242.07	218.78	23.29	86.99	63.7

Note: Figures are for fiscal (April-March); CAD: Current Account Deficit.

INDIA'S FOREIGN EXCHANGE RESERVES ($ BILLION)



Source: Reserve Bank of India.

INDIA'S FOREIGN exchange reserves registered a $1.51 billion weekly rise to touch $658.09 billion on November 29. This reversed eight straight weeks of decline, from the all-time-high $704.89 billion reached on September 27 (*see chart*).

The roughly two months since September 27 witnessed not only a $46.79 billion dip in forex reserves, but the rupee, too, weakening from 83.67 to 84.66 to the US dollar. September 27 was also when the BSE Sensex and NIFTY 50 benchmark stock market indices scaled peaks of 85,978.25 and 26,277.35 points respectively.

The period following those highs has been marked by foreign portfolio investors (FPI) pulling out money from India's equity and debt markets. Their net sales amounted to $11.47 billion in October alone and another $2.54 billion in November. As these outflows – dollars leaving the country – put pressure on the rupee, the Reserve Bank of India (RBI) had to support the domestic currency. It did so by selling dollars from the official forex chest. That has, in turn, led to a depletion in the reserves, which are under its sole custody.

Forex reserve movements

A depletion or accretion in forex reserves is, however, caused not just by FPIs taking out or bringing in money into Indian markets.

Reserve movements are a function of the country's external balance of payments (BoP) transactions, both current and capital. Current account transactions basically cover exports and imports, of goods as well as services.

As far as trade in goods goes, India has traditionally been more an importer than an exporter. In 2023-24, its merchandise exports, at $441.48 billion, were way below imports, at $683.55 billion, translating into a deficit of $242.07 billion. The accompanying table shows merchant trade deficits being run year after year, ranging from $102.15 billion in 2020-21 to $265.29 billion in 2022-23.

It has been the other way round, though, in services — what is called the "invisibles" account. This account has consistently posted a surplus, more than doubling from $98.03 billion in 2016-17 to $218.78 billion in 2023-24. This has been largely courtesy of two major invisible receipts items: exports of software services and remittances from Indians living abroad.

Net software exports increased from $60.96 billion in 2011-12 to $70.76 billion in 2016-17 and further to $142.07 billion in 2023-24. Much of this was post the Covid pandemic, which spurred digitisation of business and government operations globally and gave an impetus to exports of Information Technology services from India.

Alongside software, there has been a jump in net exports of "business" and "financial" services, from $(-)361 million and $(-)424 million respectively in 2020-21, to $29.24 billion and $3.49 billion in 2023-24. This has probably had to do with the setting up of Global Capability Centres by multinational corporations in India, providing specialised solutions — from research and development to accountancy and customer support — to their parent offices and subsidiaries worldwide.

Private remittance transfers — dollars, dirhams, euros and pounds sent home by the Indian diaspora — fell from $63.47 billion in 2011-12 to $56.57 billion in 2016-17, before soaring to $101.78 billion in 2022-23 and $106.63 billion in 2023-24.

Current account relief

The net impact of expanding invisibles surpluses, together with widening merchandise trade deficits, has been to bring down the imbalances in India's overall external current account. The current account deficit (CAD), which had climbed to $78.16 billion in 2011-12 and $88.16 billion in 2012-13, narrowed to $23.29 billion in 2023-24. There have been years, like 2021-21, when the current account has even turned positive.

India is, in fact, one of the few countries with a CAD much lower than its merchandise trade deficit. China, in 2023, had a goods trade surplus of $593.90 billion — from exports of $3,179.19 billion and imports of $2,585.30 billion. But it also, unlike India, had a $340.91 billion invisibles deficit, reducing its aggregate current account surplus to $252.99 billion.

A robust and structurally surplus invisibles account has kept India's CAD at manageable levels. It has also attenuated the effects of structurally high goods trade deficits, perhaps reflecting the growing loss of competitiveness of the country's manufacturing and tangible production sectors.

Capital account vulnerability

India's BoP problems today stem mainly from the capital, and not current, account.

So long as CADs are modest, they can be financed through capital flows. In most years, net capital inflows have actually been higher than the CAD, with the excess being mopped up by the RBI and adding to the official forex reserves. Recent years have seen more accretions and depletions happening only in some, such as 2011-12, 2018-19 and 2022-23. The outstanding fiscal year-end reserves with RBI have gone up from $294.40 billion in 2011-12 to $646.42 billion in 2023-24, and further to $658.09 billion as on November 29.

Capital flows include those from foreign direct investment (FDI), FPIs, external commercial borrowings (ECB) and Non-Resident Indian (NRI) deposits.

Out of these, FDI flows are considered more stable, as they usually entail long-term investment in factories and physical assets, boosting the country's productive capacity and job creation. The other three sources are either fickle (FPI) or short-term (ECB and NRI deposits), while prone to sudden outflows and withdrawals (foreign banks can demand accelerated repayment or even recall of loans from borrowers in uncertain times).

According to the RBI's BoP data, FDI flows into India have dropped from $56.01 billion in 2019-20, $54.93 billion in 2020-21 and $56.23 billion in 2021-22 to $42.01 billion and $26.47 billion in the following two fiscals. Net FPI flows, by contrast, hit a record $44.08 billion in 2023-24.

The pressure on the rupee now from the capital account is different from the situation of 2011-12 and 2012-13. That was a time when India also had large CADs. The drying up of capital flows — triggered by the US Federal Reserve's decision to gradually unwind ("taper") its bond purchases programme (read the printing of dollars) — only made things worse then, sending the rupee into a free fall amid dwindling forex reserves.

This time, things don't seem that bad, notwithstanding stagnant FDI and volatile FDI flows, plus uncertainties from the next Donald Trump US administration. The CAD isn't as high as before and can be financed by some drawdown of reserves at worst.

Why RBI wants hedge against dollar reliance, but no push for de-dollarisation

RAVI DUTTA MISHRA
NEW DELHI, DECEMBER 8

EXPLAINED ECONOMICS

RESERVE BANK of India (RBI) Governor Shaktikanta Das said on Friday that India is not pursuing "de-dollarisation", and that recent measures promoting transactions in domestic currencies are intended to de-risk Indian trade.

The clarification came days after US President-elect Donald Trump threatened "100 per cent tariffs" against BRICS countries if they sought to reduce reliance on the US dollar in international trade.

Das said that BRICS (Brazil, Russia, India, China, South Africa) nations have discussed the possibility of a shared currency, but reached no decision. RBI decisions such as allowing Vostro accounts and entering local currency trade agreements are aimed at diversifying risk rather than reducing dependence on the dollar.

"This is not about de-dollarisation; it is about de-risking our trade," Das said. "The geographical spread of BRICS nations is a factor to consider. Unlike the Eurozone, with its geographical contiguity enabling a single currency, BRICS countries are spread across diverse regions, posing unique challenges," he said.

A key reason India is not backing de-dollarisation is the rise of the Chinese yuan as a challenger to the US dollar. India has resisted using the yuan for Russian oil imports, even as the acceptance of the currency is growing in Russia. Following the Western sanctions on Russia, including freezing $300 billion in Russian foreign holdings, the yuan became Russia's most traded currency last year.

At the same time, India is wary of over-dependence on the dollar. The RBI has increased gold purchases, and has begun moving its gold, held abroad, back into the country.

While this is in part due to increased uncertainties after the war in Ukraine, it is in line with the buying of gold by global central banks fearing secondary sanctions.

Why are central banks on a gold-buying spree?

Central banks, particularly in emerging market economies, have increased their gold holdings sharply so as to diversify away from a dollar-dominated financial system.

According to JP Morgan, central banks collectively bought a net 1,136 tonnes of gold in 2022, the highest annual demand on record, and another 1,037 tonnes in 2023.

The World Gold Council, the London-headquartered international trade association for the gold industry, said recently that central banks had reported 60 tonnes of net gold purchases in October. "The Reserve Bank of India (RBI) led the field, adding 27 tonnes of gold to its reserves, followed by Turkey and Poland — 17 tonnes and 8 tonnes respectively," the Council said.

Notably, China, which has fulfilled much of the demand originating from sanctions-hit Russia and is engaged in a trade war with the United States, has bought a record amount of gold in the last two years. In 2023, the People's Bank of China bought more gold than any other central bank.

The Currency Composition of Official Foreign Exchange Reserves (COFER) of the International Monetary Fund (IMF) shows a gradual decline in the share of the dollar in central bank and government foreign reserves. The gains of the yuan, especially, "match a quarter of the decline in the dollar's share", the IMF said.

A JP Morgan report said the increase in gold purchases by central banks reduced their need for precautionary reserves of US dollars and US treasuries, which freed up capital for growth-boosting projects.

How does the high cost of holding dollars play out in this scenario?

Depleting dollar reserves amid surging oil prices has recently caused considerable social and political unrest in India's neighbourhood. Sri Lanka, Bangladesh, Nepal, and Pakistan witnessed sharp declines in their dollar reserves following the Ukraine war, which upset their trade relations with India. While India has managed to keep a robust reserve, the surging value of the dollar has become a concern.

To partially de-risk its trade ties, India is pushing for trade with Russia and the UAE in domestic currencies that could help cut reliance on the US dollar. However, the domestic currency trade has not yet picked up as expected because of India's low foothold in goods and services trade internationally.

India's efforts toward internationalising the rupee could get a boost if oil exporters begin accepting rupee payments. But they have remained hesitant due to the high transaction costs.

A reason for the rise of the yuan has been its use in purchasing Russian oil. As China and Russia have a bilateral trade balance, both countries have been able to reduce reliance on the US dollar by trading in domestic currency. India has a bilateral trade deficit with most countries except the US.

WHAT THE OTHERS SAY

"Consensual foreign policy is the need of the hour. Right now, it is worth celebrating that China, which harboured deep suspicions of the Congress, will be more amenable to dealing with Nepal's biggest party. Their mutual suspicions were poisoning Nepal-China relations."

— THE KATHMANDU POST, NEPAL

All is not well with soil

Fertiliser subsidy is causing a skewed nutrient profile. For farm productivity and human health, this must be addressed

FROM PLATE TO PLOUGH

BY ASHOK GULATI AND RITIKA JUNEJA

C R Sasikumar

DECEMBER 5, 2024, was the 10th World Soil Day. Topsoil — up to two to three cms in depth — which nature takes 1,000 years to create, is critical: Almost 95 per cent of food currently produced comes from it. So, 'Caring for Soils - Measure, Monitor, and Manage' — the theme of this year's World Soil Day — was appropriate as our soils are becoming deficient in the essential nutrients needed for healthy soils.

December 4 to 6 was also the time when the Fertiliser Association of India (FAI) hosted its annual seminar on 'Sustainable Fertiliser and Agriculture'. More than 1,400 delegates from 20 countries participated in the seminar. The role of the fertiliser industry is critical in ensuring that our soils are healthy and well-nourished. While high-yielding seeds of various crops are a catalyst of change in agriculture, they cannot deliver high productivity without nutrients, which are provided by the fertiliser industry.

Let us now turn to Indian soils and the role of the fertiliser industry.

Less than 5 per cent of Indian soils have high or sufficient nitrogen, only 40 per cent have sufficient phosphate, 32 per cent have sufficient potash and just 20 per cent are sufficient in organic carbon. Our soils also suffer from a deficiency of micronutrients like sulphur, iron, zinc, boron, etc. These deficiencies range from moderate to severe. The Indian fertiliser industry, then, has a massive and crucial role to play.

It is heartening to see that India is a net exporter of agri-produce. Despite Covid-19, in the three years from 2020-21 to 2022-23, India exported about 85 million tonnes of cereals. This was after giving cereals (rice and/or wheat) nearly free of cost to more than 813 million people. India is by far the largest exporter of rice in the world. A part of this success story is written by the Indian fertiliser industry. It has done a yeoman's service in ensuring that all major essential nutrients like nitrogen (N), phosphate (P) and potash (K), and other micronutrients, are either produced at home or imported in sufficient quantities, and distributed to our farmers well in time to give us higher productivity.

Having said this, we must also say that all is not well either with our soils or our fertiliser industry or our agriculture. There is a slack of at least 30 per cent, and at places even up to 50 per cent. It is this slack that needs to be filled and richer harvests will follow. Our fertiliser sector is living on huge subsidisation. It amounted to Rs 1.88 lakh crore, which was almost 4 per cent of the Union budget of the last fiscal year. Urea, which bags almost two-thirds of the subsidy, is being produced primarily in granular form, and its price is controlled by the government, roughly at \$70/tonne, which is the cheapest in the world by a wide margin. This has remained almost constant for over a decade.

While DAP and MOP, were brought under the Nutrient-Based Subsidy scheme in 2010, urea was left out. As a result, the relative prices of urea, DAP and MOP were highly distorted as was the use of these essential fertilisers. In most of the major agricultural states, N is being overused compared to the recommended dose, while P and K are underused. Punjab is a classic example where the N, P and K balance has gone for a toss. Compared to recommended doses, as per the package of practices given by Punjab Agriculture University (PAU), Punjab is using 61 per cent more N than is needed, 89 per cent less K, and 8 per cent less P. Similarly, Telangana is overusing N by 54 per cent but 82 per cent less K, and 13 per cent less P. The situation in other states is also similar. As a result, farmers see a lot of greenery on their farms, due to the high use of N, but not enough grain due to relatively lower doses of P and K.

This highly imbalanced use of N, P and K, and the neglect of micronutrients, leading to suboptimal results on agricultural productivity and thereby farmers' profitability, is largely caused by the fertiliser subsidy policy. Think of the fact that the Nutrient Use Efficiency (NUE) of our current fertiliser use is not more than 35 to 40 per cent. The rest of the fertilisers' quantity, especially N, is going into the atmosphere as nitrous oxide, which is 273 times the carbon dioxide. It is ironic that the massive subsidy on urea is actually creating more poison in the atmosphere than increasing grain yields. On top of this, at least 20-25 per cent of urea is being diverted to non-agricultural uses and also leaking to neighbouring countries. This must change.

> The solution lies in deregulating the fertiliser sector from price controls. Farmers may be given equivalent direct income transfers in the form of digital coupons to buy fertilisers. Deregulating this industry on the lines of cement, diesel, etc., will make it much better in terms of innovation, efficiency, and more importantly give the right signals to farmers to use N, P, and K in the right balance.

The solution lies in deregulating the fertiliser sector from price controls. Farmers may be given equivalent direct income transfers in the form of digital coupons to buy fertilisers. Deregulating this industry on the lines of cement, diesel, etc, will make it much better in terms of innovation, and efficiency, and more importantly give the right signals to our farmers to use N, P, and K in the right balance. Also, we need to promote the use of micro-nutrients to give the best results in terms of productivity as well as farmers' profits.

But this reform will require a lot of preparation. Triangulating data on fertiliser sales, soil health cards (SHC), PM-KISAN, land records, crops grown, bank accounts and mobile numbers of farmers would be needed. The Union government will also have to communicate that these reforms are in the farmers' interest. They will gain from it, as would the nation, its soils and agriculture, and the fertiliser industry can fly like the pharma industry for human health.

Gulati is Distinguished Professor and Juneja a Research Fellow at ICRIER. Views are personal

Don't disrupt House of debate

In Parliament, government needs to be open to constructive criticism, Opposition must accept people's mandate

M VENKAIAH NAIDU

THE INDIAN PARLIAMENTARY system reflects the collective will of the people. Recent trends, as evident in the behaviour of some members, point to a troubling decline in parliamentary standards. Disruption of proceedings of the two Houses only serves to undermine public trust and faith in Parliament. Such behaviour has, unfortunately, become the norm in some state legislative assemblies as well. Disruption, disturbance and commotion can never be a substitute for debate and discussion.

Instances of unruly behaviour, constant high-decibel sloganeering and an overall tone of acrimony and bitterness have eclipsed constructive debates and meaningful deliberations in recent years. When members rush into the well of the House, they are not just violating procedural decorum. Such unacceptable behaviour militates against democratic governance. People voted for a functional Parliament that deliberates on pressing socio-economic challenges and issues of national interest and formulates policies accordingly.

Members jumping onto their desks, snatching papers from the table of the Chair and attempting to outshout other members, not allowing even the Leader of the House and other seniors to speak, and constant confrontations with the presiding officer create a poor impression about the country's Parliament. On the basis of my long experience in public life and having witnessed such dismal scenes in Parliament during my term as Chairman of the Rajya Sabha earlier, I have to say that such obstructionist behaviour is deeply upsetting. They make one wonder at the kind of example the elected representatives are setting. Sadly, it appears that many of them are unmindful of the consequences of their actions and have no remorse. Instead of repudiating charges or allegations effectively, members resort to shouting, interruptions and sloganeering.

The sanctity of parliamentary debate, which lies at the core of democratic decision-making, is getting compromised by the day. We need a deliberative democracy, one that is based on the guiding principle of debate, discuss and decide, but which does not disrupt.

All political parties, as representatives of the people and custodians of democratic values, have a great responsibility. It is high time they introspect and initiate remedial measures. There is a pressing need for a collective commitment to uphold the principles of sound and reasoned debate, mutual respect, and procedural integrity. Consensus, marked by grace and generosity and parliamentary decorum, should take the place of obduracy and acrimony. Dialogue marked by a spirit of give and take, in debates as well as matters of procedure, between the treasury benches and the Opposition will set in motion a cycle of trust, which is a prerequisite for the effective functioning of Parliament. The government, on its part, must show a willingness to face constructive criticism and welcome purposeful suggestions from across the aisles. The Opposition must demonstrate a much greater degree of tolerance for the mandate of the masses.

There is an urgent need, therefore, for consensus-building across party lines. The adversarial nature of politics stalls legislative progress. Hence, there is a greater need for all sides to work together. It is my conviction that for parliamentary democracy to function properly, the government should propose, the Opposition should oppose, if necessary, and the House in question should finally dispose. The Opposition, on its part, must offer constructive criticism and refrain from indulging in obstructionist tactics to create a stalemate. Both the government and the Opposition must commit to building consensus on critical issues of national importance.

Political parties must foster a culture of accountability among their members and ensure that elected representatives uphold the dignity of Parliament, as also that of state assemblies. Only then can the quality of parliamentary proceedings, which cost the public exchequer crores of rupees, improve tangibly.

The consequences of the downslide are all too obvious. Public disillusionment with politics, Parliament, state legislatures and governance would deepen. A large section of the electorate stayed away from voting in the general elections. This is a worrying sign. Logjams, boycotts and walkouts in Parliament and state assemblies will increase people's disillusionment.

India, the world's fastest growing economy, is hailed by the world as a beacon of democratic resilience and pluralism. A dysfunctional Parliament would dent its image and stature on the global stage and would seriously undermine its leadership role in the international community.

Youth aspiring to enter politics must prioritise values such as integrity, transparency and accountability from the outset of their careers. Ethical conduct not only earns public respect but also enhances legislative effectiveness. They must emulate iconic parliamentarians of yesteryears like Atal Bihari Vajpayee, Piloo Mody, Hiren Mukherjee, Minoo Masani, Jyotirmoy Basu, Bhupesh Gupta and others, regardless of the party they represented. By consistently demonstrating exemplary parliamentary decorum, conduct, and ethical behavior, these great parliamentarians set a high benchmark that promoted confidence, trust and respect in democratic institutions.

By collectively reaffirming their commitment to decorum and constructive dialogue, political parties can uphold the sanctity of India's parliamentary democracy and gain the trust and confidence of the electorate. The time to act on consensual politics both at national and local levels, is now. The future of Indian democracy hinges on the willingness of all political players to rise above differences and divergent views. All stakeholders need to come together to steer the nation towards a more inclusive and responsive governance framework.

The writer is former Vice President of India

Government vs House

Ruling party is blocking debate on Adani, Sambhal, Manipur, high prices, jobs

SUPRIYA SHRINATE

INDIA'S PARLIAMENTARY DEMOCRACY is being tested — not by the Opposition, but by the ruling party, the BJP. Parliament, the seat of decision-making, is the temple of democracy because critical issues of public importance must be discussed in detail on the floor of the House. Parliament is meant to function, not to be adjourned.

In the last 10 days, however, it has functioned for all of 64 minutes because of the ruling party's ploys to disrupt proceedings.

The Opposition, meanwhile, has resorted to innovative ways to draw the people's attention and register its protest without being an obstacle inside the House. From printed stickers on their backs, to human chains and even printed masks, Opposition MPs are demanding that the House must function and be allowed to discuss crucial issues — something the government clearly doesn't want.

But what one sees inside Parliament is a reflection of what the BJP does outside of it: Muzzle voices of protest, mask the fault lines, look the other way when faced with allegations, bulldoze and silence the Opposition.

Gautam Adani, who enjoys the patronage and protection of the Narendra Modi government, has been accused of wrongdoing, fraud, foul play and, most recently, of bribing Indian politicians and officials. Warrants have been issued against him by a grand jury of the United States Department of Justice. He is facing protests in Australia, and Kenya has cancelled his airport and power deals. A Bangladesh court has ordered a probe against his power deal, while Sri Lanka has kept a similar pact on watch and Switzerland has frozen funds connected to the group.

Amidst such serious allegations it is imperative that Parliament discusses the Adani issue. The Opposition is united in its demand to discuss it on the floor of the House. But the mere mention of the word "Adani" is met with mayhem from the Treasury benches and vehement objections from the custodians of both Houses, with the Speaker and Chairman saying "nothing will go on record" before quickly adjourning proceedings.

The allegations against the Adani Group must be discussed in Parliament because they raise serious questions about India as a destination for global investment, on its corporate governance, the credibility of agencies and market regulator and, most importantly, the rule of law in letter and spirit.

But the government wants to avoid any discussion. Ironically, government functionaries and members of Parliament have floated fictional theories of a "global conspiracy against India", when in reality they should be seeking a fair probe. It is the tainted businessman who has brought disrepute to India across the world. And yet, the entire BJP and government is not just defending him with full force but feels obliged to hold Parliament to ransom.

The Adani issue makes PM Modi and his government nervous. It was shortly after Rahul Gandhi raised uncomfortable questions on the nexus between the government and the business house that he ended up being disqualified from Lok Sabha. Last year, 141 Opposition MPs were suspended from the House for raising their voice on the Adani matter.

Today, many parts of the country are on the boil, including Sambhal in Uttar Pradesh. Five people lost their lives in Sambhal while the government and police allowed a mockery to be made of the Places of Worship Act, 1991, and allowed the fanning of flames of communal hatred under their watch.

The Uttar Pradesh police and administration did not allow the Leader of the Opposition, Rahul Gandhi, to visit Sambhal, even when he offered to go by himself. The BJP fears that a discussion on the violence in Sambhal will expose the collapse of law and order in UP and will reveal wider complicities.

The Opposition expects to discuss the state of the economy, which has been marred by low growth, no jobs, stagnant incomes, high prices, depleting savings and a weakening rupee. It has to bear, instead, the displays of temper of the Finance Minister in Parliament.

Let alone speaking on these grave matters, the PM, who is the leader of the House, has not even made an effort to be present in it. It must not be forgotten that the Opposition had to finally resort to a no-confidence motion against the government to force the PM to speak on Manipur, which has been torn by strife for almost two years now. He hasn't found the time to either appeal for peace or visit the state.

Our Parliament has a glorious tradition of vibrant debates and discussions, but the ruling party has lowered the level of discourse by resorting to mudslinging, lies and unparliamentary language. This is being done intentionally to distract from the main issues that the Opposition wants to raise in the house — like Adani, Sambhal, Manipur, high prices, joblessness.

Today, Parliament functions only for 55 days in the entire year, and even in this short duration, if it is adjourned at the behest of the ruling party, questions will be raised about what the House is really expected to do. If it is not allowed to discuss crucial matters, how will solutions be found? Is Parliament only a place for cheerleading and thumping the tables on the arrival of the PM, or is he accountable for what's happening across the country?

What is happening to India's democracy is sad. Our first PM wrote columns criticising himself, as there was no strong Opposition at the time, while we now have a PM who cannot tolerate scrutiny and criticism. It's a stark reminder of how far we've strayed from the democratic ideals of our founding fathers.

The writer is chairperson, social media and digital platforms, AICC

LETTERS TO THE EDITOR

STICK TO THE TERMS

THIS REFERS TO the article, 'Pause, not peace' (IE, December 7). The US-brokered truce is a meaningful effort to de-escalate the violence in West Asia. Yet, peace in the region remains precarious, demanding cautious optimism and robust measures to ensure its durability. For Lebanon, the ceasefire is a double-edged sword. On the one hand, it provides an opportunity for displaced families to return to their homes, bringing relief to those uprooted by the hostilities. On the other, the reality awaiting these returnees is grim. For Israel, the ceasefire offers a strategic reprieve, giving them time to replenish their energies. The international community must remain engaged, ensuring that both parties adhere to the terms of the ceasefire.

Sankar Paul, *Nadia*

NO TO DIVISION

THIS REFERS TO the article, 'No place for communalism' (IE, December 7). The way in which the writer encourages the leaders of South Asian nations to act against religious discrimination is laudable. He rightly observes that Bangladesh was born out of a rejection of the politics of religion, and where Hindus and other minorities had also contributed to and sacrificed for the nation. Now, these groups are being subjected to violence and the nation is dangerously becoming religiously polarised. This divisiveness is key to Hindutva politics as well which was on display during BJP's recent poll campaigns in India. The writer's advice for Bangladesh and others in the region is equally applicable to India. India should practice what they preach or change their speech.

L R Murmu, *New Delhi*

AVENUE OF POLICY

THIS REFERS TO the editorial, 'Inflation at centre' (IE, December 7). RBI's recent decision reflects a careful balance between supporting economic growth and checking inflationary risks, showing the central bank's commitment to long-term economic stability over short-term gains. A cut in rates could potentially stoke inflationary pressures, undermining the purchasing power of households and destabilising the broader economy. By resisting external pressures, the central bank has sent a strong signal about its commitment to evidence-based policymaking. The government must recognise that monetary policy alone can't drive economic growth. Structural reforms, improved fiscal management, and enhanced ease of doing business are equally critical to sustain growth momentum.

Sanjay Chopra, *Mohali*

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Warming up

The household rooftop solar scheme needs refinement

The PM Surya Ghar Muft Bijli Yojana (PMSGMBY) launched on February 15 has got off to a good start, but some course correction may be needed to make it realise its potential. The four-year scheme, for which ₹75,021 crore has been promised, is intended to give a financial push for the setting up of 10 million small size rooftop solar plants, with financial support ranging from ₹30,000 to ₹48,000 for capacities up to 3 kW, by March 2027.

Since the scheme was launched, 638,352 installations have been done by households, including 3,500-odd residential welfare associations, adding close to 2 GW. Out of the ₹9,600 crore allocated for the scheme for 2024-25, ₹2,865 crore has been disbursed. As the scheme is further nourished by 10-year, 7 per cent bank loans, the government expects installations to grow to a million by March 2025 and double every six months thereafter. This sounds ambitious, but not impossible — as one data point seems to illustrate: In the last week of November alone 18,423 rooftop plants were installed. Considering that this has been achieved in fewer than ten months, and the fact that the run-rate is understandably slower in the initial months, it ought to be said that the PMSGMBY has begun satisfactorily. Yet, there are some niggles.

First, just two States, Gujarat with 287,814, and Maharashtra with 127,381, account for over 65 per cent of the installations. Consider the next two — Uttar Pradesh (53,801) and Kerala (52,993) — the number rises to over 80 per cent, indicating an unhealthy skewness. Also, some of the installations in Gujarat happened before the scheme was announced but were later subsumed into it. Second, the gaps between registration, application and actual installation numbers are also large, indicating the need for action. Against 14.5 million registrations, there have been only 2.65 million applications and 0.68 million installations — 75 per cent of applicants have yet to install. Third, there are no quality or safety standards in place specific to the scheme, a point repeatedly made by industry insiders. There are over 10,000 service providers without due oversight.

Finally, it is a moot point whether the scheme is reaching the intended beneficiaries. The scheme has its origins in competitive politics. That the ruling BJP intends to skim political benefits is clear from the fact that the name of the scheme was changed from PM Suryoday Yojana to PM Surya Ghar Muft Bijli Yojana. The idea was to provide solar power to the ultra-poor, though this section of society clearly cannot afford the unsubsidised portion of the cost. The government is also not revealing the average ticket size, which is believed to be upwards of 3 kW, indicating that those in desperate need of support are not the beneficiaries of the scheme. The scheme therefore needs to be tweaked to address this gap. A solution lies in the form of community solar, typically of 3-5 MW capacity, which provide free power to the poor.

OTHER VOICES.

CHINADAILY

Policy coordination can spur common prosperity

The talks Chinese Premier Li Qiang is hosting in Beijing on Monday with heads of 10 international economic organisations are expected to be conducive to improving the global economic governance system and promoting global common prosperity. Under the theme of 'Building Consensus on Development to Promote Global Common Prosperity', Premier Li and his guests, including heads of the World Bank, the IMF, the World Trade Organization, and the Organisation for Economic Co-operation and Development, are scheduled to have intensive discussions on the prospects for world economic development. If a common understanding can be reached through the dialogue, it would hopefully prompt the relevant parties to make concerted efforts to help the world economy overcome its obdurate difficulties. (BEIJING, DECEMBER 8)

TheObserver

The young are battling to defend democracy

It has been a testing week for democracy across Europe and Asia. But the good news is that, by and large, countries that trust the people to decide who governs them are weathering the storm. This outcome is by no means final or certain, nor can it be in an era when authoritarian, dictatorial and illiberal regimes are advancing. It is now commonplace, indeed normal, for democratic electoral processes to be subverted, disrupted and disputed from within and by external forces using clandestine, hybrid methods. The latest upheavals also come amid signs of regression in the US, the country most closely identified with democratic rights and freedoms. (LONDON, DECEMBER 8)

Are investment, growth rates being fully captured?

We are actually investing and producing more than what the official numbers suggest. Just because the government can't see it, it doesn't mean it isn't happening

LINE & LENGTH.

TCA SRINIVASA RAGHAVAN

The growth rate of the Indian economy came down sharply in the last few months, leaving a lot of optimists looking very embarrassed and government spokespersons saying don't worry, be happy because this is only a temporary blip. Maybe it is, maybe it's not. We will soon find out.

But as we wait for that day, here's another Indian paradox. Since the early 1950s, successive governments have been advised by several top class economists, both Indian and foreign. Yet the Indian economy performs way below potential. China, on the other hand, hasn't had the benefit of such advice. Yet today its economy is almost five times as big as India's.

What's happening is that lots of income is being generated but when declared is taxed so much that it is being hidden, and consumption is being diverted to goods made in the informal sector

So we can be forgiven for wondering if the economists who advised us were not really top class or whether the advice they gave was faulty. Having studied this question in some depth over the years, I can say quite confidently that they were indeed great economists and their advice was excellent given the context of the times.

Great economists. Good advice. But poor economic performance. What then is the problem? Why are we unable to get investment, employment and output to grow at an adequate rate over even 10 years, let alone the 30 that China and East Asia managed between 1978 and 2008?

The technical answer is, of course, well known: we have never managed to raise the investment rate to the 35+ per cent that's necessary for long enough. Yes, but why not?

LONG LIST OF REASONS

The list of reasons is long and now boring. Bad politics. Bad choices. Bad policies. Bad institutions. Bad bureaucracy. Bad reforms. Bad regulation. Bad costs. Bad taxation. Bad integrity. Bad returns.

As a result, the debate and discussion have now become so bad that no one is interested any longer. These reasons have been discussed and for so long that for the last decade discussion fatigue has occurred. We aren't even trying to find out why investment doesn't cross the 30 per cent level. Or, hold on, doesn't it?

"When you have eliminated the impossible, whatever remains, however improbable, must be the truth." This is a famous Sherlock Holmes saying. It happens to be true in terms of logic. It also happens to be the method used, unwittingly, by the late Isher Ahluwalia in her 1984 book to explain Indian stagnation in the 1970s. She was hailed for it.

So how probable is it that we are asking the wrong question? Is it possible that official statistics don't capture the real investment and growth rates both of which are, and have been, actually growing at around 8-10 per cent more than what official data suggest? That is, we actually save and invest around 40 per cent of GDP.

For the last 35 years I have been saying that this is what's been happening because of one simple counterfactual phenomenon: except for short periods, our inflation rate has remained below 10 per cent over the last 75 years. This can only mean one thing: the demand-supply gap has been much less than what an average growth rate of only around 6 per cent would result in even given big fiscal deficits.

In other words, we are actually investing more and producing more than what the official numbers suggest. Just because the government can't see it, it doesn't mean it isn't happening.

The sheer size of what the government can't see, the 60 per cent 'informal' economy, stands witness. Please someone tell me, what's so informal about money that's actually invested and goods and services that are actually produced? The inability to tax them doesn't mean these things don't exist.

Indeed, as everyone accepts, the more things a government taxes, the more is the investment and output that are hidden from it.

HIGH RATES, LOW COVERAGE

GST was supposed to solve this but has failed because of the high rates and ridiculously low coverage. It should be the other way around: complete coverage and low rates.

Likewise income tax. The policy is complete rubbish. If you tax at these rates you can't expect consumption of things produced in the formal sector to grow. Things are much cheaper in the informal sector which sells things produced in the formal sector, the grey market.

What's happening is that lots of income is being generated but when declared is taxed so much that it is being hidden, and consumption is being diverted to goods made in the informal sector.

There is also a thriving second-hand market that works on a word-of-mouth basis. There are well-developed supply chains and distribution networks for everything. The formal sector calls these "Number 2 *ka samaan*."

The short point is that we have what's called the tip of the iceberg problem, of reaching conclusions on the basis of too little information.

How the amended banking laws will impact you

Depositors can now nominate up to four individuals for their bank accounts or fixed deposits

bl.explainer

Piyush Shukla

Parliament on Tuesday passed the Banking Laws (Amendment) Bill, 2024, which proposes 19 amendments to banking laws, including the Reserve Bank of India Act, the Banking Regulation Act, the State Bank of India Act, and the Banking Companies (Acquisition and Transfer of Undertakings) Act.

The Bill piloted by Finance Minister Nirmala Sitharaman has addressed crucial legacy issues, and was approved by the Lok Sabha by a voice vote. *Businessline* takes a look at the new laws and their impact on banks and customers.

What is the key amendment under the Bill?

Replacing the current system wherein bank depositors can only have one nominee for their bank accounts, the Bill enables depositors to nominate up to four individuals for their bank accounts or fixed deposits.

The move is expected to enhance customer convenience and address the unclaimed deposits issue. Unclaimed deposits with banks have witnessed a 26 per cent jump year-on-year to ₹78,213 crore at the end of March 2024, according to an RBI Annual Report.

"Changes in nomination mechanism offer flexibility to depositors and will avoid disputes and litigation, which usually occur after death of the depositor. Provision of simultaneous and successive nomination echoes principles in personal laws and provides more flexibility to the depositor, especially in large-value deposits," said Mukesh Chand, Senior Counsel at Economic Laws Practice.

What are the proposed changes for directorships?

The Bill redefines "substantial interest" for bank directorships by raising the threshold from ₹5 lakh to ₹2 crore, a figure reportedly unchanged for nearly six decades.

Satyadarshi Kunal, Partner at Saraf and Partners, says the provision allowing multiple nominees for bank accounts and the redefinition of 'substantial interest' thresholds represent significant advancements in governance and customer protection.

"These measures are designed to simplify the process of fund distribution and align directorship thresholds with current economic realities, thereby enhancing the overall efficiency and transparency of banking operations," he said.

MORE LEEWAY. For depositors

What are the changes in the urban co-operative banks space?

The Bill proposes to increase the tenure of directors (excluding the chairman and whole-time director) in co-operative banks from 8 to 10 years, to align with the Constitution (Ninety-Seventh Amendment) Act, 2011.

Once passed by the Upper House, the Bill would allow a director of a Central co-operative bank to serve on the board of a State co-operative bank. Separately, the Bill also seeks to give greater freedom to banks in deciding the remuneration to be paid to statutory auditors. It also seeks to redefine the reporting dates for banks for regulatory compliance to the 15th and last day of every month, instead of the second and fourth Fridays.

"The proposed amendments will strengthen governance in the banking sector and enhance customer convenience with respect to nomination and protection of investors," Sitharaman said while moving the Bill for consideration and passing.

What will the impact of proposed amendments be?

According to Chand, while the proposed amendments to the Banking Regulation Act are not substantive in nature, they reflect an effort to align the regulatory framework with contemporary practices, economic realities, and existing legal frameworks.

For example, shift in reporting aligns compliance timelines with standard financial reporting cycles. Mandating the transfer of unclaimed assets to the Investor Education and Protection Fund also addresses a long-standing issue.

"Thus, while not revolutionary, the amendment aims to refine and align existing processes, creating a more cohesive and operationally efficient regulatory environment," he said.

BELOW THE LINE

RBI Deputy Governor MD Patra

Monetary policy discourse

"Monetary policy announcements are associated with frissons of animated speculation rippling through public discourse," RBI Deputy Governor MD Patra said at the recent High-Level Policy Conference of Central Banks in the Global South, organised by the RBI in Mumbai. He observed that projections are revised, and the balance of risks are re-tilted. Shadow monetary policy committees take positions in print and in sound bytes. "Curve fitting the central bank commences — is it behind the curve? — and accordingly, bird-like postures are conjured to characterise its angle of repose. Markets get poised to reprice, and financial institutions reassess interest margins," Patra said.

The Deputy Governor noted that depositors and businesses exert conflicting pulls on public opinion. Questions rent the air on the likelihood of rate movements, by how much, and on shifts in stance.

Perks of owning a team

Owning a team in the Tamil Nadu Cricket Association (TNCA) can help an owner in a big way. A little bird says even a team in the fifth league is entitled to 25 tickets for every match at a concessional rate held at the MA Chidambaram stadium. Some owners do not distribute these concessional tickets but sell them off. Every owner gets ₹20,000 for each league match which the team can use for food, snacks and beverages, including cool drinks, for its players. Some teams even use this money for net practice. Owners can even lease their clubs to others for a cost, which could be in the range of ₹2 lakh to ₹10 lakh, depending on the division the club is placed in.

Vice President's swipe

Vice President Jagdeep Dhankhar's critique of the government's failure to address farmers' issues lays bare an uncomfortable irony. While India shines on the global stage, its farmers — who form the backbone of the economy — continue to battle unfulfilled promises and neglect. Drawing parallels to Sardar Patel's unification efforts, Dhankhar warned against testing their patience, cautioning that no force can suppress the voice of the farmer without dire consequences.

Going overboard

Over the last few days, all one heard in Telangana was about the successful completion of the first year of #PrajaPalana — the theme of the Revanth Reddy-led Congress government. Not only the Chief Minister but all his party members were talking about it. Apart from launches and re-launches of various schemes, they harped about the initiatives that were taken by the government.

Even social media was agog, with the government's key achievements.

Our Bureaus

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NEWS SNIPPETS.

More thermal power planned

The Ministry of Power has told Parliament that it plans to set up 80,000 MW of thermal (coal) power plants by 2031-32, including 29,200 MW under construction and 51,250 MW "at various stages of planning and development".

India's installed electricity generation capacity has doubled in the last ten years — 2,22,500 MW were added since April 2014 — to reach 4,54,452 MW. Also, the 'aggregate technical and commercial' (AT&C) or transmission loss dropped from 25.5 per cent in 2012-13 to 15.37 per cent in 2022-23. Furthermore, the gap between the average cost of supply and average revenue realised has declined from 84 paise a kWhr in FY2013 to 45 paise in FY2023, the ministry informed Parliament.

Broadband-plus-power supply

To augment broadband availability, especially in rural areas, the Ministry of Power, on the suggestion of the Ministry of Communications, has asked Powergrid Corporation of India, as well as State transmission utilities to tweak the technical specifications of their transmission projects to "support laying of at least 48 fibres of 'optical ground wire' (OPGW), instead of 24 fibres". This is meant for "leasing of additional fibres for the use of telecom service providers and internet service providers".

Aavishkaar startup summit

More than 300 startups and 700 stakeholders participated at the recent Sankalp Bharat Summit held by the Aavishkaar Foundation in Varanasi.

Themed 'From India to the World: Impact unicorns shaping the future' and hosted in Varanasi for the first time, the summit featured speeches by Dr V Anantha Nageshwaran, the government's Chief Economic Advisor; Amit Chandra, Chairman, Bain Capital; Archana Jahagirdar, Rukam Capital; Satya Prakash Singh, SIDBI; and Goverdhan Singh Rawat, NABARD.

Sankalp Forum was initiated in 2009 by Intellecap, part of the Aavishkaar Group, to create an ecosystem for business-led inclusive development. Over the years, Sankalp's enterprise-focused platform has showcased and discovered over 2,780 entrepreneurs across 35 editions and connected them to more than 1,000 investors. It has helped raise over $800 million funding and disbursed over $1.2 million cash grants, according to a press release.

Copper body backs solar stoves

The International Copper Association, India, is pushing for solar induction cookstoves. "By promoting the widespread adoption of these cookstoves, the government can transform cooking practices, benefiting millions and fostering a greener future," Mayur Karmakar, Managing Director of the association, writes in *Akshya Urja*, the Ministry of New and Renewable Energy's in-house magazine.

Why is a copper body interested in boosting the adoption of solar cookstoves? Because "leveraging copper in clean cooking will be key to achieving health and environmental goals", Karmakar writes, extolling the virtues of copper.

"Copper's outstanding electrical conductivity is fundamental to the efficient operation of solar induction cookstoves. Copper, with its low electrical resistance, ensures that this transfer occurs with minimal energy loss, which is crucial for maximising the use of solar power, especially in off-grid or rural areas where energy conservation is essential," he says.

CLIMATE OF COOPERATION

Carbon credits: Payback in greenback

AVOIDING A COP-OUT. The agreement on carbon markets is a notable positive from a climate meet that was nearly written off

Aarti Khosla

ISTOCK.COM

The World Bank says the world could warm by 4 degrees over pre-industrial levels by the end of the century. This dire prediction means that global carbon dioxide emission cuts are nowhere near urgent enough to arrest runaway climate change. From an equity point of view, this also does not give the developing world much breathing room, given the fast-shrinking carbon budget. This has been a flashpoint as developing countries cannot afford to forego economic growth to undo the wrongs of the global North.

The recently concluded climate conference — COP29 — in Baku, Azerbaijan, exposed the flaws. The takeaway from the last few COPs is that, despite the clamour for climate justice, the global North remains hesitant to commit to more financing. This year the mood was acrimonious towards the end and developing countries staged a walkout over the 'new collective quantified goal' (NCQG) on climate finance negotiations, saying the offer of $300 billion a year by 2035 was inadequate. Worse, there is little clarity on how this amount will be disbursed.

The global South wants it as public money — grants — from developed countries (as bilaterals or multilaterals), while the latter have reimagined it as private investments from all sources — international and domestic.

FINANCE DESTINATION

The argument is not without merit. While $300 billion a year is ambitious, the money needs to be spent on projects that are the most likely to succeed. This is why the agreement on carbon markets at Baku has been a small but positive outcome. It is not a replacement for climate finance but, in a world fraught with complex geopolitical contexts, it's a good start that needs more clarity, such as around the stringent rules to develop baselines to estimate emission reductions from projects. Additionally, to avert fake and inflated credits there is need for international standards and rules. Private investors from the developed world could help companies, institutions and even governments undertake verifiable reductions in emissions, and entities in the West can buy the credits to offset emissions.

The premise is elegant, and the stress is rightly on 'verifiable' reductions. It also means that the hard-to-abate industries, such as cement and steel manufacturing, and fast-growing sectors in developing countries, such as commercial complexes, can access foreign finance and work towards low-carbon or even net-zero operations.

ENGINEERING SOLUTIONS

For instance, an 80,000 sq ft commercial building in New Delhi would consume massive power each year if designed poorly.

With only grid-supplied electricity, its carbon emissions would depend on the emissions intensity of the grid, which is 0.71-0.82 kg of carbon dioxide per kWh, according to the Central Electricity Authority of India (CEA).

This works out to 2.13-2.46 million kg for an annual consumption of, say, three million units.

However, by investing in energy audits and design-stage improvements alone, such as high-performance HVAC systems, wall insulation and double-glazed windows, energy consumption could be halved. If retrofitted with a captive solar system that feeds daytime power consumption, the complex would leap that much closer to net-zero operations. Based on the reduction, the breakeven period may be as low as five years while the savings would accrue for the life of the building.

The verifiability is built-in as backend calculations can be independently verified by engineers and auditors from the global North.

Equally, the complex's energy savings could be cross-checked with its utility bills and by third-party protocols. Retrofits are also a practical solution for thousands of existing buildings in the global South. The tangible savings in carbon dioxide emissions work on two levels — long-term climate action for developing economies and a verifiable investment avenue for the developed world.

This year, India was also approved to join the Global Energy Efficiency Hub, which is a timely shot-in-the-arm that will let it access the sector's international best practices.

QUALITY CARBON CREDITS

Crucially, this approach leads to quality carbon credits. One carbon credit is equivalent to one tonne of avoided carbon dioxide emissions, but it has proved difficult to quantify the savings from initiatives like afforestation, avoiding deforestation, or other nature-based solutions that renew local carbon sinks. Energy-efficiency retrofits offer a much easier route and, hence, credits from well-designed interventions at a steel plant or large residential complex are likely to fetch a higher market price. Again, this is a win-win as the credit seller receives a higher return on investment (which may be shared with the foreign investor) and the buyer is confident of paying for a measure that did lower emissions.

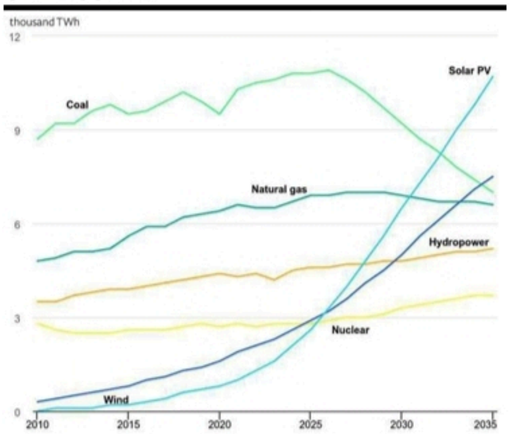
ALL IS NOT LOST

That after 29 years, far from having found an equitable solution, the very need for the COP is being questioned is a sobering thought. The global South urgently needs consistent and much greater finance, but what little is available remains contingent on the countries proving that they deserve the funds at all.

This has led to a trust deficit that can only be resolved if the money starts to flow. Thus, with time running out, market-based solutions like carbon credits could finally draw in elusive private investment and the logjam may finally be broken.

The writer is Director, Climate Trends

GREEN SCREEN



World electricity generation — 2010-35

Data from the International Energy Agency shows that global coal- and solar-based electricity generation will be roughly the same around 2032, at around 8,100 terawatt-hour (TWhr). Solar generation is expected to rise from 2,100 TWhr in 2024 to 10,700 TWhr; wind from 2,600 to 7,500; coal 10,800 to 7,000; natural gas 6,700 to 6,600, hydro 4,500 to 5,200; and nuclear 2,800 to 3,700

LAST-MILE UTILITY

Splicing solar, micro-hydropower

Our Bureau

ISTOCK.COM

Hengbung, a remote village in Manipur, has a first-of-its-kind utility worth replicating elsewhere too — a micro solar pumped storage facility supplying 24x7 power to 50 households.

Today, large-scale pumped hydro systems are the in-thing and many companies are pursuing them as an infrastructure for storage services. But Hengbung seems to illustrate that micro-scale systems are feasible too.

The system utilises solar energy to pump water from a lower reservoir to an upper reservoir during periods of high solar irradiance. This stored water can then be released through a micro-hydro turbine to generate electricity when solar power is not available or when there is high energy demand.

"This innovative technology combines solar power and micro hydropower benefits, creating a hybrid system that can efficiently store and dispatch energy as needed," says a case study published in *Akshay Urja*, an in-house publication of the Ministry of New and Renewable Energy.

RELIABILITY

The key components of the system include a 40-kWp solar photovoltaic array, upper and lower pumped storage reservoirs of 900 cubic metre capacity each, a 4x10 HP solar pumping system, and a 12-kW micro-hydro unit, which can handle loads up to 12.5 kVA while maintaining voltage stability of 217-243 V and frequency between 48.75 Hz and 51.25 Hz.

The micro system has achieved an average generation consistency of 88.6 per cent, "indicating its reliability in meeting the energy demands of rural communities".

The article notes that by harnessing solar power and micro-hydropower, the system has achieved a 92 per cent reduction in greenhouse gas emissions compared with conventional grid power.

Compressed biogas: Far short of the 5,000-plant mark, but getting there?

The initiative to step up production of the sustainable fuel has faced challenges such as unremunerative pricing and lack of infrastructure to move the gas

M Ramesh

A recent press release from the government stated that there has been an "impressive year-on-year growth" in the number of compressed biogas (CBG) plants set up in India, "from only 19 functional plants in 2020 to 125 currently".

Well, here is something that is not so impressive: In October 2018, when the government launched the 'Sustainable Alternative Towards Affordable Transportation' (SATAT) initiative, it said it aimed for 5,000 CBG plants, with total output of 15 million tonnes a year (equivalent to 54 million MMSCMD, or metric standard cubic metres per day, of natural gas), by 2023-24.

While the government release mentions 125 plants, the SATAT portal says 77 plants have been commissioned, and 17,801 tonnes of gas was sold in 2024-25 — a far cry from 15 million tonnes.

The initiative has faced several challenges such as unremunerative pricing and lack of infrastructure to move the gas.

However, according to industry sources, these issues have largely been resolved and things are looking better, even though the trajectory is not yet good enough for the target.

GREEN FEEDSTOCK. Compressed biogas plants are set up in rural areas for assured supply of biomass

DECEPTIVE PRACTICE

That the CBG scheme has not taken off as expected was noted, back in December 2022, by a report of the Standing Committee on Petroleum and Natural Gas. It observed that the scheme "has not been able to encourage investors/ entrepreneurs to establish CBG plants".

It also flagged several hurdles in the scheme's implementation, including the multiple letters of intent that the Ministry of Petroleum and Natural Gas issued "to show that targets under the scheme will be met". Without mincing words, the committee said it "found the practice to be deceptive on the part of MoPNG and oil and gas marketing companies". Moreover, when entrepreneurs approached banks for loans towards setting up CBG plants, "the banks are not extending loans for more than one project to entrepreneurs with multiple letters of intent".

It also noted that "CBG plants have a very low internal rate of return" and that the pricing of gas "needs to be remunerative to the marketing companies".

IMPROVED SCENARIO

Mohit Gupta, COO, GPS Renewables, however insists that things are looking better. Reliance, Adani and several other big players have announced projects. Also, the median size of projects has gone up. When the SATAT scheme was launched, it was assumed that each plant's capacity would be 5 tonnes a day, but most plants are now planned for 15-20 tpd, some even 40 tpd. Based on the announcements, Gupta reckons that, in three years, India could have at least 500 plants (it takes roughly ₹100 crore to set up one plant). In terms of capacity, these would be equivalent to 2,000 plants of the originally envisaged size. But that is still far short of the targeted 5,000.

A critical issue that remains unaddressed, says Gupta, whose company has announced it would set up eight CBG plants in a joint venture with Oil India Ltd, is the regulation for injecting the gas into pipelines. Today, you can sell the gas only within a certain geographical limit. Since CBG plants are typically set up in rural areas, where the feedstock biomass is available, the gas is produced in low-consumption centres. To supply to high-consumption centres, such as cities, it needs to be transported by road in cylinders. If CBG companies are allowed to transport the gas via pipeline, its reach and business prospects would improve. The government is said to be looking into this.

Today, CBG prices are linked to natural gas prices (at 20 per cent discount). The Indian Biogas Association has called for a ₹10-15 per kg premium to CNG, to recognise the green credentials of CBG.