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48 The paper argues that *kāvyaśāstra* in ancient India functioned like a conditioning mechanism and persuaded the writer to voluntarily confine themselves within the hegemonic limits set by the prevalent ethical and moral codes, making external controls redundant. —Sreenath V S, Mini Chandran

Indian Railway Health Service

55 If the railway health model is redeveloped and recreated to achieve the goal of universal health coverage, it can not only continue to provide robust healthcare facilities but also deliver quality people-centred integrated care. —Feroz Iqbal, Rudrani Ghosh & Praveen Bhide

A New Economics Awaits Us

61 The major motivation for the initiation of this article came after reading Dipankar Gupta's review titled "A New Sociology Awaits Us" (*EPW*, 26 December 2020), which mainly concentrated on urban affairs. —Sankar Varma

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Atrocities amid Celebrations of Independence

The judicious, just, and fair application of the law by the institutions of the state is the hallmark of a functioning progressive, constitutional democracy. The promotion of a law-based behaviour is a constitutional obligation in order to avoid old structures putting its tentacles back over the institutions of justice. Without this, the caste, religious, patriarchal, and homophobic cultural bigots get a free run to twist the democratic working of the state. Sadly, when looked at from the margins, the Indian state, in the best-case scenario, is and has been paralysed by these bigots and, in the worst case, has terribly failed in its endeavour in protecting the democratic rights and dignity of the lower castes in India. The treatment of the lower castes, tribals, Muslims, women, daily wage labourers and, recently, even the farmers has been a testament to that.

The weeks leading to independence give no break to the daily reports of caste and religious violence and atrocities. Two brutal caste atrocities occurred in Maharashtra in August and September 2021 raising questions about the real face of the government in the state. The denial of democratic rights of lower castes and the normalisation of caste-based violence and its validation by the state machinery are not new in India. The first case occurred in Malewadi village of Solapur district whose member of the legislative assembly (MLA) and member of Parliament (MP) both are from Dalit communities. Here, the upper-caste man from whose farm a road to the village cremation ground passes denied passage to the funeral procession of a visually impaired Dalit man. This visually impaired man was also the brother of the Dalit sarpanch (elected village head) in a majoritarian upper-caste-dominated village. He was elected to the sarpanch post because the seat was reserved for Scheduled Caste (sc) candidates. This sc sarpanch had dared to lodge an atrocity case against this upper-caste man when the latter had beaten up a Dalit family in the village earlier. The election of a Dalit

sarpanch in a majoritarian upper-caste village through political reservation is a real setback to the socially dominant castes in the village. This incident took a new turn when Dashrath Sathe (the sarpanch) decided to burn his brother's body in front of the village panchayat office after he was denied passage to the cremation ground. Sathe refused to bow down to the upper castes' pressure who demanded dropping of those old atrocity charges in return to allow the passage of his brother's dead body to the cremation ground. He refused this condition and instead chose to burn the dead body of his brother in front of the panchayat office.

The second instance occurred in September 2021. Seven senior citizens from two Dalit families were brutally thrashed and beaten up by upper-caste villagers on suspicion of "black magic." Three of the victims were tied to wooden poles, punched, and brutally beaten with sticks. In 2020, we witnessed the Hathras case where the state police burnt the body of a Dalit rape victim in the middle of the night against the wishes of her family members. All these instances happened when India was getting ready to step into its 75th year of independence. Such caste-based humiliation, violence against the lower castes, and systemic ignorance of these instances by the Indian state are not only well-documented but these also seriously implicate the upper-caste-dominated civil society, which B R Ambedkar had rightly diagnosed.

Caste relations in India are a social impediment that hinders the growth of a democratic conscience among the people. Castes are mutually exclusive and repulsive towards other caste groups in general and the lower castes in particular. Castes are an anathema to fraternity and associational life. The mutual repulsion of caste

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creates mutual antagonism. This irreconcilable antagonism and hatred of the upper castes towards the lower castes in India squeezes even the corporeal appearance of its already shrinking democracy.

The caste system in Indian society is a *de facto* juror and has always been attempting to preserve the traditional social superiority of the upper castes. The easiest way to achieve this is to target the weak. Thus, domination over Dalits becomes the essential component of a caste society. Through political reservation and representation, even if Dalits become sarpanches, MLAs, or MPs, the institution of caste swings into a retaliatory mode repressing and subverting the very democratic structure of the country enshrined in its Constitution.

Apart from the everyday atrocities that the lower castes suffer at the hands of the upper castes, the police not registering their complaints, blocking entry to the victim's villages and houses, and the judiciary using atrocity law against the victims themselves are all signs of the Indian state having been overcome by the dominant castes' interests. Democratic ideals of the Indian state look aghast when it participates in the destruction of the dignity and democratic rights of the lower castes.

We are witness to the everyday instances of the denial of human dignity to millions of Dalits, Adivasis, Muslims, and women; what we need to choose is which state we wish to become—*de jure* a republic where every marginalised person is protected and is able to live the life of dignity or a *de facto* caste state that will keep murdering democratic aspirations of the majority of the marginalised social groups in India. The choice remains ours.

Suraj Telange

LONDON

Siddharth Kamble

MUMBAI

Need for a Data Privacy Law

Five years after the Supreme Court's judgment in the Puttaswamy case recognising the fundamental right to privacy; four years after the Justice Srikrishna Committee report; two and a half years after the introduction of the

Personal Data Protection Bill, 2019; and over half a year after the presentation of the report of the joint committee, the union minister for electronics and information technology abruptly withdrew the Personal Data Protection Bill, 2019 from the Lok Sabha on 3 August 2022. The minister stated that the government is working on a "comprehensive legal framework" and will present a new bill in this regard. Importantly, no timeline was even hinted at for the framing and introduction of this new bill. This withdrawal is abrupt because, in February 2022, the union minister had stated that there were no plans to scrap the existing bill and that the government was hopeful of getting the bill passed "definitely, by the monsoon session."

The first signs of changes in India's information technology law were signalled by the minister of state for electronics and information technology Rajeev Chandrasekhar in April 2022, when he mentioned the need for a digital India act to replace the Information Technology Act, 2000. Subsequently, in an answer before the Rajya Sabha, the minister stated that the government continues to have discussions with relevant stakeholders, but there are no plans to form an expert committee. On the point of the Personal Data Protection Bill, the minister had said that the report of the joint committee and the bill were under examination. The withdrawal of a bill from Parliament is not unprecedented, and one or two bills are withdrawn from the Lok Sabha every year. The withdrawal of a bill from Parliament is preceded by a cabinet decision, but there is no press release concerning a cabinet decision on the withdrawal of the Personal Data Protection Bill, 2019.

The movement of having a law for the protection of privacy of Indians was envisaged by the Justice A P Shah Committee report in 2012. Twelve years later, the government has failed to frame a law to protect citizens' privacy but was quick to introduce the Criminal Procedure (Identification) Bill, 2022—a law that has implications on privacy but was passed by both the houses within 10 days. Similarly, the bill to connect the electoral roll data with Aadhaar was

passed by both the houses within two days. Why is the process to protect privacy unending, while legislations taking it away are prompt?

A comprehensive data protection law is not only relevant to protecting privacy but also has economic benefits. The General Data Protection Regulation (GDPR) in Europe is considered to be one of the most comprehensive data protection laws in the world. The European Commission awards an adequacy decision to countries with a similar level of data protection as the European Union that facilitates the commercial exchange of data, thus reaping economic benefits. The Personal Data Protection Bill, which was modelled on the GDPR, could have achieved this status if it had incorporated the necessary changes on the exemption to state agencies that were suggested by the joint committee.

One of the factors in the ease of doing business is legal stability. India has seen piecemeal action in the technology law space for the last few years, such as the intermediary guidelines, the Draft India Data Accessibility and Use Policy, and the Indian Computer Emergency Response Team directions. It is well known that the big-tech companies were against the Personal Data Protection Bill, and this withdrawal will further extend the *laissez-faire* regime they are enjoying. It is now incumbent on the union government to not let the effort of the last 12 years go to waste and present a comprehensive law in a time-bound manner.

Gaurav Pathak

NEW DELHI

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Only Inclusive Policies Can Strengthen the Nation

Dichotomy is the hallmark of India's development gains over the last 75 years.

As the nation celebrates its 75th year of independence, it is only appropriate to sum up its achievements and the setbacks. Nothing would adequately sum up these markers better than the observation made by the great Cambridge economist Joan Robinson. Decades back, she is quoted to have said that “what is frustrating about India is that whatever you can rightly say of India, the opposite is also true.” The veracity of this statement resonates even today as evident from the vociferous reaction to the monologue on “Two Indias” that went viral last year.

Sadly, nowhere is the concept of Two Indias more visible than in the economic sphere. Even as the nation made surprising gains over the last 75 years, with its gross domestic product (GDP) rising to be among the top five in the global rankings, the poverty levels remain intolerably high. The multidimensional poverty index developed by the NITI Aayog indicates that around a quarter of the population continues to be poor, and rural poverty is as high as one-third. This is despite the fact that the country has moved 273 million people out of poverty in the decade between 2005–06 and 2015–16.

Moreover, the increasing concentration of income and wealth has pushed the majority of the population to the margins. Their relative share of income and wealth has declined and weakened domestic consumption and demand even while the rich and the powerful accumulate endlessly. Over the last three decades, the income share of the top 1% of the population has doubled at the expense of those in the lower half whose real incomes shrunk by a third during the period. Similarly, the concentration of wealth of the Indian oligarchs rivals their counterparts in the United States, Russia, and South Africa as they climb up the ranks of the global rich.

Equally distressing is the increasingly visible social divide. Today, five out of the six people living in poverty are from the disadvantaged castes and tribes. A quarter of the Other Backward Classes, a third of the Scheduled Castes, and around half of the Scheduled Tribes live in multidimensional poverty. In contrast, less than a fifth of the general category suffer such distress. To add to the misery, the distribution of wealth among the social classes is even more skewed. And then there are the huge regional inequalities. The per capita GDP in Bihar is just one-tenth of that in Goa. And the average per person output in the richest five states is more than four times larger than that of their counterparts in the five poorest states.

Another major setback that robs the achievements of the last 75 years most of its appeal is the unacceptably large gender divide.

Most recent reports show that India has one of the worst gender gaps, which is rivalled only by nations like Saudi Arabia, Nigeria, and Egypt. The cause of this huge gender discrimination is the pervasive patriarchy that disempowers women and prevents them from seeking employment. Female work participation in India has slipped from around a quarter to just about one-fifth in the last two decades.

The huge chasm between the haves and the have-nots is mainly due to the overt dependence on market-oriented supply-side economic policies to spur growth. However, the continued inability of the major political parties to secure a minimum basic income to the poor and the disadvantaged groups, even as the number of billionaires steadily grow, has eroded the credibility of the political institutions. The general response of many political parties is to drum up divisive sentiments that affect people's lives and shift the focus away from the livelihood issues.

The result has been a major boost to majoritarian forces and an increasing concentration of power in the top echelons. Despite the growing threat to the minorities and other marginal groups, the political parties, especially the main opposition, shy away from directly confronting the religious bigots. The judiciary has also generally failed to adequately respond to try and reassure the citizens even as the mainstream media continues to largely ignore the growing menace.

On top of all these, the union government has steadily gnawed away at the already emasculated powers of the states and also starved them of resources even as it swears by cooperative federalism. The steady infringements on the state functions in agriculture, education, and health are some pointers. The absence of a proper institutional forum for the regular interactions between the states and the union government has severely dented the federal structure.

Things have deteriorated so badly that today the very survival of the states is now dependent on the whims of the union government. The scrapping of the statehood of Jammu and Kashmir and the almost complete disenfranchising of the Government of Delhi are only some of the most recent developments. To add to this, the ruling dispensation continues to destabilise state governments to notch up petty gains.

Similarly, the state finances have been badly weakened by the fiscal policies of the union government. The demonetisation drive, the poorly designed goods and services tax, and the pandemic that sent the economy into a tailspin have hobbled state finances. In addition, the union government has reduced the share of taxes devolving to the states by steadily shifting resource

mobilisation efforts to cesses and surcharges that are not shareable. They ignore the fact that only strong states can make a stronger nation.

As the nation celebrates its 75th anniversary, the immediate task now is to erase these not-so-laudable legacies and rebuild a compassionate nation.

Now or Never in Bihar?

The challenge before the new government is to deliver on the ideological and policy promises of the Mahagathbandhan.

Awanish Kumar writes:

Of late, it has become relatively easier to get cynical about politics. There is no dearth of instances to demonstrate brazen and brutal display of money or muscle power from the highest echelons as the country has witnessed multiple re-enactments of “Operation Kamal.” There were rumours of an ongoing effort in Jharkhand when Bihar struck on 9 August 2022.

Nine years ago, in June 2013, Nitish Kumar had left the Bharatiya Janata Party (BJP)-led National Democratic Alliance (NDA). After the electoral debacle in Lok Sabha elections, in a press conference on 18 May 2014, Kumar announced his resignation and justified his breaking away from the NDA on ideological grounds. Later, in June 2015, he formed the Mahagathbandhan (grand alliance) along with the Rashtriya Janata Dal (RJD) and the Congress party. The Mahagathbandhan, expectedly, performed exceedingly well in the assembly elections, and a new government with Kumar as the chief minister and Tejashwi Yadav as his deputy took oath. Within two years, Kumar listened to his “inner voice” and resigned again. Within hours, the BJP had submitted its letter of support to the governor and a new government under his leadership was in place the very next day. The NDA contested the Lok Sabha elections in 2019 together and formed a government in Bihar after the closely fought assembly elections in 2020. In an eerily similar turn of events, Kumar resigned again on 9 August 2022. The very next day, the Mahagathbandhan was back in power. What do the informed and politically oriented citizens make of this series of events over the last few years?

Even at the level of real-world politicking, a few clarifications are in order. Mainstream coverage has put too much focus on individual opportunism and various caste calculations. However, anyone observing Bihar politics closely knew that ever since the assembly elections in 2020, things were not going well between the Janata Dal (United) (JD(U)) and BJP. Kumar felt, with valid reasons, that the Chirag Paswan-led revolt within the NDA selectively and conveniently targeted only the JD(U) and brought them down to 43 seats—a historic low. Despite this, Kumar was made the chief minister but with two deputies. The state-level leadership of the BJP was hostile to him from the very beginning and often antagonised him with public criticisms. The chief minister himself indulged in repeated verbal confrontations with the speaker of the Bihar assembly. It was only a matter of time that the BJP, now a senior partner, dumped JD(U) as they did in Maharashtra. To be fair to Kumar, this time around, he did provide a series of clues to political observers about his impending decision to break away from the NDA. The separation of the JD(U) and BJP was long in the making.

While several commentators have pointed out the compulsion behind Kumar’s decision, it is also important to note his eventual indispensability in Bihar’s politics because of his careful stitching and sustenance of a “coalition of extremes,” starting with, in his own words, Annexure 1 politics. This term comes from Annexure 1 of the Mungeri Lal Commission that defined the Extremely Backward Castes (EBCs). Added to this coalition were a section of the upper castes and the newly created category of Mahadalits. Interestingly, the new Mahagathbandhan cabinet seems to have taken the question of Pasmanda Muslim representation seriously. Kumar’s strength lies in his unique ability to manage this internally contradictory coalition, and this is what makes him enduringly relevant in Bihar despite his numerous flip-flops over the years and the subsequent decline in his image and quality of governance.

It is also useful to go back to the origins of the Mahagathbandhan in 2015. The Mahagathbandhan electoral campaign was creative in its retelling of the Hindu nationalist project not only as communal but also casteist while, at the same time, keeping their focus on a special status for Bihar and youth employment and courageous in its willingness to engage with difficult contemporary ideological questions such as about the issue of cow protection and beef-eating. This was surely not just Mandal-II as many have labelled it uncritically. Added to this was the fact that in the run-up to the assembly elections in 2020, Tejashwi Yadav was the first to raise the question of jobs. In the din of contemporary media that exoticises Bihar as completely consumed by caste politics and in the age of neo-liberal common sense about economic growth, it is easy to forget that he promised *naukri* (jobs) and not *rojgar* (employment) to the youth of Bihar. This was in late July 2020 when the ruling NDA coalition was still trying to ferment emotions. His slogan of “padhai, dawai, kamai, and sinchai” was a hit among the youth across castes.

The challenge in 2022 for both Kumar and Yadav is to deliver on the ideological and policy promises of the Mahagathbandhan. This time around, once again, they will have to manage the ever-vindictive BJP and its central government along with a hostile media. In their own ways, for both Kumar and Yadav, it is a now-or-never situation. Kumar needs to regain his credibility and image as a man of principle, whereas for Yadav, it is his chance to come out of the shadow of his father and revisit his social justice agenda while the BJP now is raring to come on its own in Bihar politics.

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Nation as an Anticipatory Space

It is needless to mention that the national flag, indeed, is the symbol of freedom and sovereignty or the marker of independence from colonial rule. It has been the usual cultural experience that people from different countries choose, perhaps spontaneously on their own, a national flag as the medium to relate themselves to their particular nation. In India, the current union government made an appeal to its people that the latter should celebrate the platinum jubilee of India's independence on an even wider scale by hoisting the national flag on the top of their individual homes. However, prior to this governmental appeal, people in the country have been hoisting the national flag in their houses. This would mean that the identification with the nation does involve a cultural initiative that displays an unconditional respect for the nation.

The national flag as the most powerful national symbol enjoys sovereignty against external domination as well as against internal competitors; for example, the political party or any cultural, religious organisation's flags that are displayed within the country. It is in this sense that the national flag may appear to be a symbol that is apolitical. It is also above competitive politics as it seeks to morally empower every nationalist without distinction. In another sense, the national flag is above parochial political intentions.

Within the totality of sovereign meaning bound by the sense of freedom and peace that is symbolically reflected in the national flag, however, people do attach different but generally positive meaning to the symbolism associated with it. This actually resonates with the multiple but affirmative meaning that the modern Indian political thinkers attached to the national flag, which was evolving and acquired its final shape in 1947. The national flag, in its totality of meaning, symbolises the sense of people being free from foreign domination as well as the structures of domination within the country of which they are the citizens constitutionally.

However, at the level of people's cultural reception, the colour, texture, and Ashoka Chakra that form the constitutive part of the national flag do suggest the affirmative meaning for every citizen of the country. For example, for common people, the three colours of saffron, white, and green suggest the notions of freedom with peace and the Ashoka Chakra in the middle symbolises progress—both moral as well as material. And yet, some of them may see a symbol of triumphalism in the national flag. The platinum jubilee celebration of India's independence by different sections of society does indicate the fact that the national flag carries a meaning that could be commonly shared. Thus, freedom, peace, and decent social relationships are the common contents that can be associated with the

national flag. This inclusive reading of symbols could be found in the celebration of the 75 years of India's independence, particularly by the members from Dalit and minority communities.

On the spectrum of celebration, some of the enlightened Dalits seek to look at the Ashoka Chakra as the symbol of equality and justice. Dalits find the blue chakra as the symbol that indicates the dynamics of moving up or forward. Thus, unfurling the national flag by a Dalit panchayat president or the sarpanch of a village panchayat symbolises the democratisation of cultural spaces in which Dalits can also participate. The nationalist act of unfurling the flag by a Dalit sarpanch, a minister, or a panchayat president does develop within the former an ascending sense of respect for the self and reverence for the nation. This enactment of self-respect becomes an integral part of the moment when they pull, with their heads held high, the cord that takes the national flag to the top of the flagpole.

However, such a symbolic act that defines respect for the self and the nation does not seem to go well with some of the upper-caste people. The social rage of the high castes simultaneously goes up, culminating in violently denying the act of flag hoisting to a Dalit. The descending sense of recognition of the upper castes that emanates from the Dalit enactment of their national duty continues to happen even today. As social media reveals that Dalits have to unfurl the national flag under the state protection. The Dalit predicament points out two observations: first, the upper-caste opposition to a Dalit unfurling the national flag suggests that after the state, it is the upper castes who have the power to decide who can hoist the flag. Second, it is not an appeal to individualise and hence democratise the privilege to hoist the flag in everyone's homes that is a necessary condition, but allowing the Dalits to unfurl the national flag at the nationally designated institutional spaces such as office of the gram panchayat.

For Dalits, a nation needs to be filled with the normative content of equality and justice that is textually provided within the Indian Constitution. Put differently, they anticipate to form a nation where its civil society does not relegate them to the sub-human level. Arguably, one could be a nationalist by adhering to and practising the constitutional principles such as equality, justice, and fraternity. Thus, the notion of the nationalist appeal has to broaden so as to include in its thrust a message for those who have been hostile to democratic assertion and the existence of the deprived and decimated.

Gopal Kumar

FROM 50 YEARS AGO

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Ferozabad: Anatomy of a Riot

Suneet Chopra, N K Singh

According to reports, specific allegations have been registered about police excesses in Ferozabad

riots and the Criminal Investigation Department has been asked to investigate these. This step was taken after UP's Inspector General of Police had made an on-the-spot official inquiry. Leaders of most political parties who visited Ferozabad, including Congress's Subhadra Joshi, are said to have corroborated this viewpoint and blamed the Provincial Armed Constabulary and the state police for having fanned the riots. [...]

Even a short visit to the town, however, confirms one thing: *viz*, that while the attack was

on the minority community as a whole, it was directed with special vengeance at the craftsman and the worker[s]. The former, especially in Ahmadnagar area, had their tools looted. As for the workers, the Glass Workers' Union office was attacked, for no obvious reason other than that the union president was a Muslim. The other reason, and probably a more genuine one, was that the workers were proposing to go on strike for higher wages.

A Setback for Data Privacy Rights

ALOK PRASANNA KUMAR

The pullback of the Personal Data Protection Bill, 2019 has nullified the multi-year efforts put in by various stakeholders that have gone into shaping the bill. The promise of a “comprehensive legal framework” to protect the citizens’ data is a hollow one, coming with no clear deadlines or underlying principles.

The union government’s withdrawal of the Personal Data Protection Bill, 2019 (hereafter the PDP Bill) from Parliament during the 2022 monsoon session (Singh 2022) is a loss for the Indian citizens and an admission of defeat on the part of the government in its attempt to bring “big tech” (meaning the handful of dominant, the United States (us)-based tech multinationals) to heel. The last version to be withdrawn by the union government is the third iteration of the PDP Bill (Bhandari 2022), starting with the one proposed by the Justice B N Srikrishna Committee back in 2018.¹

The justification offered by the union minister for electronics and information technology on the floor of Parliament, that in light of the recommendations made by the Joint Parliamentary Committee (JPC) a comprehensive legal framework is being worked on (Singh 2022), does not hold much water. On the contrary, given the consistent pressure against the PDP Bill from the multinational digital technologies or “big tech,” backed by the us government (Barik and Aryan 2022), it is entirely conceivable that the withdrawal of the PDP Bill was the result of the pressure from outside the country.

In this article, I will look at why the union government’s justification does not seem to be borne out by the facts emerging from the PDP Bill and the JPC report and why the government chose a complete withdrawal of the bill.

The JPC Report

The PDP Bill that was referred to the JPC was not the first version of a data protection law for India. It was based on the draft law proposed by the B N Srikrishna Committee in its report. The changes made to the draft proposed by the committee were criticised by the commentators, including Justice B N Srikrishna

himself (Mandavia 2019). The criticism had to do with the way in which the law seemed to give a free pass to government agencies in the context of data protection. While the B N Srikrishna report had attempted to give a limited exception to certain government agencies, it did not concern itself with the reform of surveillance laws in India. However, the PDP Bill, as modified by the government, seemed to have expanded the scope of such expansion giving potential to create what Justice Srikrishna called “an Orwellian state.”

The pushback against the bill also came from “big tech” specifically against the requirement of data localisation. The us government even described it as a “barrier to trade” (Dasgupta 2022a). This has been a bone of contention not only in the context of data protection but also in the payments ecosystem where the Reserve Bank of India’s rules on data localisation have hit the global credit card companies hard (ENS Economic Bureau 2022). Indian businesses themselves were divided on this requirement with some anticipating increased costs for start-ups and others arguing that this would give a boost to Indian businesses with minimal costs to the ones in a nascent stage (Dasgupta 2022b; Oriel 2022).

To address the various issues and suggest a way forward, the PDP Bill was referred to the JPC, which submitted its report in December 2021.² Among the many issues it covered, perhaps the biggest change proposed was to increase the scope of the law to include “non-personal data.” The committee recommended this because of the apparent difficulty in distinguishing between the two and the need to prevent the duplication of the work done by the Data Protection Authority (DPA). There are 12 general recommendations and several specific changes proposed to the PDP Bill ranging from the renaming of the bill to bigger changes necessary to include non-personal data. Crucially, the JPC also recommends that the PDP Bill may be passed after the specific modifications are made and the general recommendations made may be “implemented in due course.”³

Some of the recommendations of the JPC are debatable, perhaps the most

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controversial one being the conflation of personal and non-personal data in the same legislation. As others have pointed out (Gupta and Naithani 2022), personal data is required to be protected by virtue of an individual's fundamental right to privacy and non-personal data use is regulated in the interests of economic development. While it may not always be possible to draw a hard-and-fast distinction between the two categories of data, the overall dichotomy in purpose would make the exercise of regulatory powers by the DPA incoherent.

Another source of discontent with the JPC report has been the overarching powers given to the union government to exempt agencies from the rigour of the law. This is reflected in the dissent notes appended to the report by multiple members of the JPC who have argued that such power, unchecked by parliamentary oversight, would amount to a significant dilution of the fundamental right to privacy (Wire 2021).

Whatever the merits of the suggestions of the JPC, at no point does it require a wholesale redrafting of the PDP Bill, starting once again from scratch. All the suggestions it proposed, whether acceptable or not, could have been incorporated into the existing draft. It did not per se disagree with the approach or the objectives of the legislation. Its annexure even included a complete draft of the modified PDP Bill to show how the changes could be included in the existing bill itself.

It is, therefore, even more mystifying that the union government cited the report of the JPC as a reason to withdraw the PDP Bill. The withdrawal of the PDP Bill goes against the JPC's own recommendations that the bill, in its present form with modifications, be passed in Parliament. It would have been understandable if the older version of the PDP Bill was withdrawn and immediately replaced with the redrafted version as suggested by the JPC. However, no such draft has been forthcoming at the time of the publication of this article.

Conclusions

Given its background, the detailed inputs of stakeholders already taken into account and the place where the discourse was at,

the suggestion that the PDP Bill needed to be withdrawn and the effort started afresh based on the JPC recommendations does not make much sense. The changes suggested could have been easily incorporated if the government so willed. It was even open to the government to disagree with the JPC on such changes that it felt would not be in keeping with the larger ethos of the PDP Bill. The statement of the minister suggests as though the number of changes is the primary reason for the rethink when, as a perusal of the report shows that a large number of them are fairly minor and could have been undertaken without fundamentally altering the PDP Bill.

The loss from the withdrawal of the bill will be borne by the Indian citizens. For one, a national effort that involved multiple stakeholders, and a detailed discussion and debate starting with the Supreme Court judgment in *Justice (Retd) K Puttaswamy v Union of India* (2017) has been rendered nought. As other commentators have pointed out, whatever its flaws, a PDP Bill would have still provided a modicum of protection to Indian citizens' data, much better than the limited framework available under the Information Technology Act, 2000 (Bhandari 2022). Setting up a DPA would have kick-started a process that was always going to take years to mature. However, with the withdrawal of the bill, the entire process has gone back to square one.

Outside a few authoritarian countries, the internet is the playground of big tech. Their dominance is nearly unchallengeable given their access to resources, the support of the US government and the access of vast quantities of data. For all its flaws, the PDP Bill would have presented a pushback from the global South to challenge the power of big tech. By withdrawing the PDP Bill, India has, to paraphrase Israeli diplomat Abba Eban, taken the opportunity to miss an opportunity.

NOTES

- 1 The Personal Data Protection Bill, 2018, viewed on 15 August 2022, https://www.meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill%2C2018_o.pdf.
- 2 Report of the Joint Committee of Parliament on the Personal Data Protection Bill, 2019, viewed on 17 August 2022, <http://164.100.47.193/lssccommittee/Joint%20Committee%20on%20>

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- 3 Report of the Joint Committee of Parliament on the Personal Data Protection Bill, 2019, viewed on 17 August 2022, http://164.100.47.193/lssccommittee/Joint%20Committee%20on%20the%20Personal%20Data%20Protection%20Bill,%202019/17_Joint_Committee_on_the_Personal_Data_Protection_Bill_2019_1.pdf, p 188.

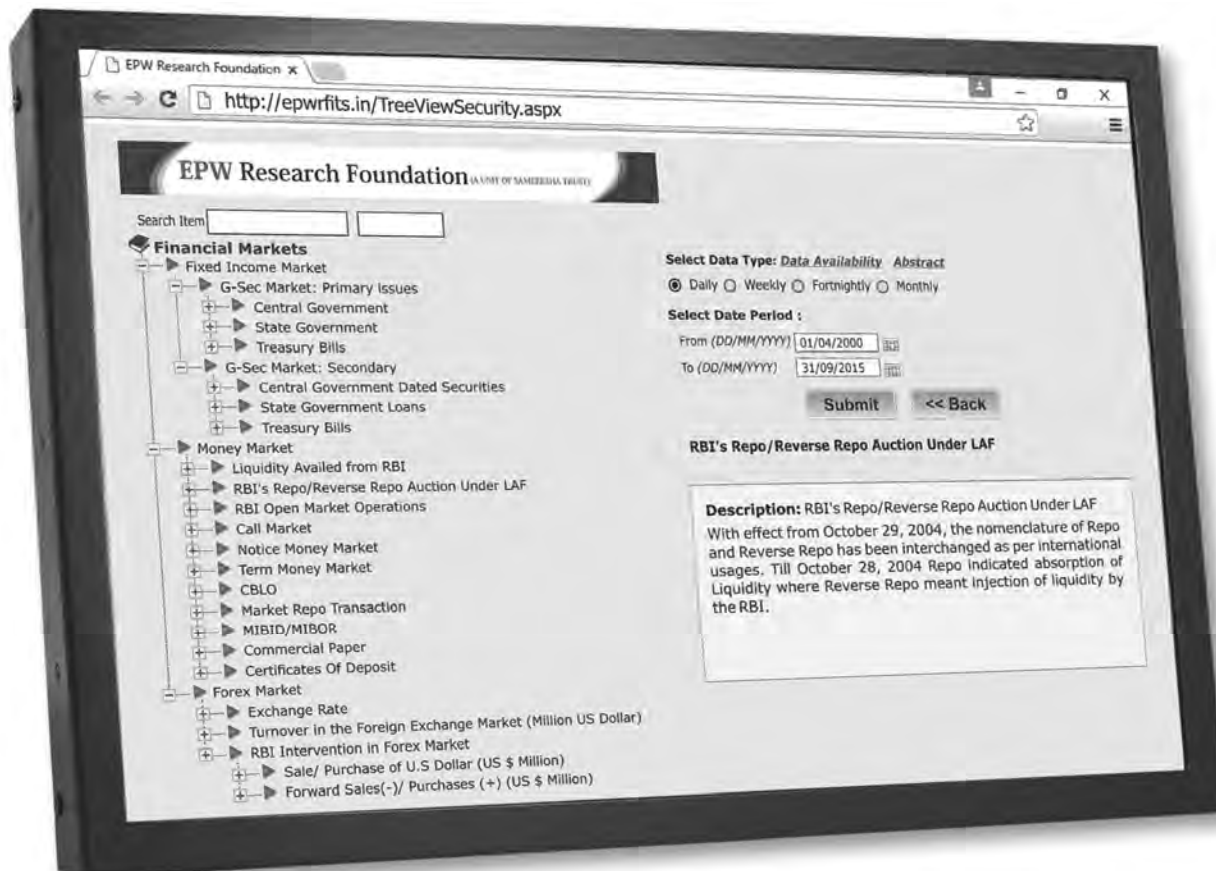
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Vulnerability as an *Ex Ante* Measure of Poverty

An Empirical Investigation for India

SUTIRTHA BANDYOPADHYAY, JOYSANKAR BHATTACHARYA

Using both rounds of the India Human Development Survey, vulnerability is measured as an *ex ante* measure of poverty for the Indian households. This article highlights the importance of measuring vulnerability in the overall poverty calculation and found it to be a significant predictor of the future poverty.

Over the last three decades, India's economy has grown rapidly and the incidence of poverty has declined drastically in the post-liberalisation period. As long as poverty reduction is a major goal, measuring poverty accurately is also of paramount importance. Several committees were established after independence that proposed alternative methodologies in order to accurately compute the poverty line for the country. The Alagh Committee (1979) and Lakdawala Committee (1993), primarily, focused on nutritional and calorie-based poverty thresholds, while the Tendulkar Committee (Planning Commission 2009), chaired by Suresh Tendulkar, instead, used spatial and temporal variations to monitor the prices across regions and time. The Tendulkar Committee also incorporated private expenditures on health and education, while estimating poverty. On the other hand, the Rangarajan Committee (2014) provided an alternative method for identifying poverty levels by examining the divergence in the consumption data provided by the National Sample Survey Office (NSSO) and the national accounts aggregates. However, the poverty approaches used by these committees conceptualise poverty as an *ex post* phenomenon and ignore the notion of vulnerability as an *ex ante* measure of poverty. The present article highlights this unexplored notion.

We can distinguish vulnerability as an *ex ante* measure of poverty from an *ex post* measure, as there are households or individuals who are currently non-poor but can become poor in the near future due to a variety of shocks, such as changes in macro-level policies, weather events, or the illness or death of the head of the

household (Imai et al 2011). *Ex ante* vulnerability to poverty is a dynamic concept that reflects the stochastic nature of poverty and the fluctuating levels of household earnings; today's poor may or may not be tomorrow's poor. On the contrary, currently non-poor households who face a high probability of large adverse shocks may, upon experiencing such shocks, become poor tomorrow. The dynamic nature of poverty in the Indian context has also been highlighted by the Department for International Development (Loughhead 2001).

In the last two decades, several studies have measured vulnerabilities to poverty across the developing countries. The scope of this literature, which estimated the vulnerability of households, was pioneered by Townsend (1994) and Udry (1996). Several subsequent studies analysed the consumption fluctuations over time, including those by Jalan and Ravallion (2001), Christiaensen and Boisvert (2000), and Skoufias and Quisumbing (2005). Drawing upon data from the Vietnam Household Living Standards Survey (VHLSS), which covered the whole of Vietnam in 2002 and 2004, Imai et al (2011) drafted measures of vulnerability and estimated their ramifications. Guillaumont (2009) sought to develop an economic vulnerability index that would comprise the risk of a (poor) country seeing its development interrupted by natural or external shocks.

Another strand of literature has examined several types of shocks that make a household vulnerable. In their work on Madagascar, Günther and Harttgen (2009) proposed a simple method to empirically assess the impact of idiosyncratic (for example, illness, crop pests) and covariate (for example, a poor rainy season) shocks on households' vulnerability. Échevin (2011) showed that idiosyncratic shocks, particularly health-related ones, have a larger impact on the vulnerability to poverty than do covariate shocks in Haiti. Mina and Imai (2017) measured household vulnerability for the Philippines and deconstructed it into idiosyncratic and covariate components.

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However, there is a dearth of empirical work measuring vulnerability in the Indian context. A probable reason behind this is the absence of panel data for long periods at the household level. However, the role of vulnerability should not be ignored in poverty calculation that considers the dynamic aspect of poverty in the Indian context. In this article, we attempt to measure the extent of vulnerability as an *ex ante* measure of poverty, and to assess poverty-vulnerability dynamics in the Indian scenario.

Vulnerability as an *ex ante* poverty measure and an *ex post* poverty measure is highly correlated but far from identical. For example, a reasonable proportion of households are vulnerable but non-poor. This justifies the measurement of vulnerability as an *ex ante* indication of poverty and including it in the poverty calculation. Indeed, we find that an estimation of current vulnerability significantly raises the probability of becoming poor in the future for a household even if they are currently non-poor. Underprivileged social groups in the Indian society, such as Scheduled Castes (scs) and Scheduled Tribes (sts), as well as non-Hindus, are more vulnerable than other groups.

Our findings suggest that Indian policymakers should not only focus on measuring present poverty; they must place equal emphasis on forecasting future poverty by understanding its dynamic nature. If the extent of vulnerability is also considered, with traditional poverty measurements, the risk aspect will be considered in the poverty calculation, policy goals will be broadened, and more people will be targeted in poverty reduction schemes. Such revision will help to control poverty in a more sustainable and stable manner.

Data

We use both rounds of the India Human Development Survey (IHDS-I and II) for our analysis. The IHDS is a nationally representative multitopic household survey, conducted jointly by the National Council of Applied Economic Research in New Delhi and the University of Maryland in the United States (US). It was designed to complement existing household surveys

by bringing together a wide range of topics into a single survey. The sample was drawn using stratified random sampling. The IHDS provides panel data at the household level; more than 40,000 households are interviewed in 1,420 villages and 1,402 urban neighbourhoods across India.

Analytical Framework and Methodology

Following the methodology proposed by Chaudhuri et al (2002), Chaudhuri (2003), and Imai et al (2011), and using IHDS-I (2004–05) and IHDS-II (2011–12) data, we measured “vulnerability as expected poverty” (VEP), as an *ex ante* measure of poverty. Vulnerability is simply defined as the probability that a household will fall into poverty in the future:

$$VEP_{it} \equiv V_{it} = \Pr(C_{i,t+1} \leq z) \quad \dots (1)$$

where vulnerability of household *i* at time *t*, V_{it} is the probability that the *i*th household’s level of consumption at time *t+1*, $C_{i,t+1}$ will be below the poverty line (BPL) *z*.

Our measure of vulnerability suffers from a few limitations. First, we use a consumption threshold of poverty in our analysis; hence, our measure reflects consumption vulnerability. Second, our measure of vulnerability in terms of the probability of a household’s consumption falling below the poverty threshold in the future is subject to (i) the choice of a threshold and (ii) the specification of “future”—that is, the next period for which the prediction is applicable. We use the state-wide rural and urban poverty line computed by the Tendulkar Committee (Planning Commission 2009) for both IHDS rounds (2004–05 and 2011–12) in our analysis. The poverty threshold computed by the Tendulkar Committee is widely used and accepted for conducting empirical analyses on poverty in the context of India. We also address the issue of specifying “future” by linking the poverty in 2011–12 with the vulnerability computed in 2004–05.

The estimated vulnerability for any household *i* at any given time period is expressed as

$$\widehat{VEP}_i \equiv \widehat{V}_i = \widehat{\Pr}(\ln C_i \leq z | X_i) \quad \dots (2)$$

We estimate this probability for any household from the IHDS data by computing the mean and variance of consumption conditional on a set of characteristics for that household explained by the vector *X*. The advantage of the method used in this article is that it requires only a cross-sectional data set. Therefore, for any household, we measure vulnerability separately for 2004–05 and 2011–12. The first step in measuring vulnerability is to estimate the consumption function using the following regression equation:

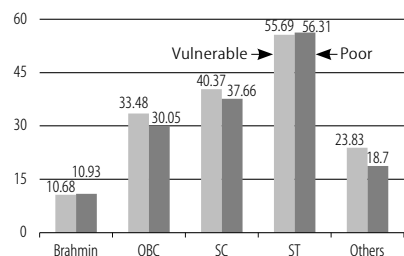
$$\ln C_i = X_i \beta + \varepsilon_i \quad \dots (3)$$

where C_i is the per capita consumption of the *i*th household. X_i represents a vector of observable household characteristics and other determinants of consumption. Following Imai et al (2011), we control (as a part of the vector *X*) the age of the household head, landholding, household size, proportion of female members in the household, number of elderly members of the household, number of children in the household, educational attainment of the household head (in years), dummy for the marital status of the household head, and a dummy for urban area (that is, whether the household is located in an urban area). The vector *X* also includes state-fixed effects. β is a vector of coefficients of household characteristics, and ε_i is a mean-zero disturbance term that captures idiosyncratic shocks to per capita consumption. The structure of the economy (captured by the coefficient vector β) is assumed to be stable over time. Therefore, we assume that the uncertainty about future consumption stems solely from the uncertainty about idiosyncratic shock ε_i that the household will experience in the future. We also assume that the variance of the disturbance term depends on the household characteristics, and represent this as:

$$\sigma_{\varepsilon_i}^2 = X_i \alpha \quad \dots (4)$$

The estimates of β and α are obtained using a three-stage feasible generalised least square (GLS) method proposed by Amemiya (1977) and applied by Chaudhuri et al (2002), Chaudhuri (2003),

Figure 1: Poverty and Vulnerability (%) by Social Groups in 2004–05



The x-axis measures the percentage of poor and vulnerable households.

Source: The figure is based on the authors' calculations using the IHDS 2004–05 data.

and Imai et al (2011). Using the estimates $\hat{\beta}$ and $\hat{\alpha}$, the mean and variance of log consumption of each household is computed as follows:

$$E[\ln C_i | X_i] = X_i \hat{\beta} \quad \dots (5)$$

$$V[\ln C_i | X_i] = X_i \hat{\alpha} \quad \dots (6)$$

We further assume that $\ln C_i$ is normally distributed. The estimated probability that a household will be poor in the future is given by

$$\widehat{VEP}_i \equiv \widehat{V}_i = \widehat{Pr}(\ln C_i \leq z | X_i) = \theta \left(\frac{\ln z - X_i \hat{\beta}}{\sqrt{X_i \hat{\alpha}}} \right) \quad \dots (7)$$

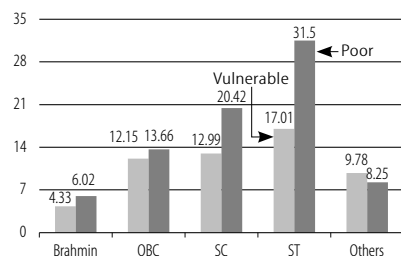
where θ stands for the cumulative density function of the standard normal distribution. A household is deemed vulnerable if the estimated probability from equation (7) is 0.5 or above. Based on the estimated vulnerability from (7) and the identification of a household as vulnerable or non-vulnerable, we conduct two further empirical analysis.

In the first analysis, we estimate the determinants of vulnerability by running the following regression:

$$\text{vuln}_i = \gamma W_i + e_i \quad \dots (8)$$

where the dependent variable vuln_i is a binary variable indicating whether a household is vulnerable or non-vulnerable. W_i is a vector of household characteristics and other possible determinants of vulnerability, and e_i is the error term of the regression equation (8). We estimate equation (8) separately for IHDS-I (2004–05) and IHDS-II (2011–12) households by using a probit model. The ordinary least squares (OLS) method is used as an alternative specification to check the robustness of the findings.

Figure 2: Poverty and Vulnerability (%) by Social Groups in 2011–12



The x-axis measures the percentage of poor and vulnerable households.

Source: The figure is based on the authors' calculations using the IHDS 2011–12 data.

In the next empirical analysis, we estimate the predictive power of vulnerability in 2004–05 to determine transitory poverty in 2011–12. A household is termed as transitory poor if it was non-poor in 2004–05 but went BPL in 2011–12. Following probit as well as OLS, we estimate the following regression specification:

$$\text{trans_poor}_i = \delta \text{VEP}_{i,2004-05} + \rho Z_i + \varphi_i \quad \dots (9)$$

where trans_poor_i is a binary variable that takes the value 1 for transitory poor households and 0 otherwise. $\text{VEP}_{i,2004-05}$ stands for the estimated vulnerability to poverty for the i th household in 2004–05. The vector Z_i includes a host of control variables and φ_i is the error term corresponding to the regression equation (9). The coefficient of interest in equation (9) is δ and estimates the strength of vulnerability in the initial period (that is, 2004–05) as a predictor of the probability of becoming poor in the later period (that is, 2011–12) for households who moved BPL from above the poverty line between these two periods.

Empirical Findings

The consumption vulnerability computed from equation (7) shows that the percentage of vulnerable households declined substantially between 2004–05 and 2011–12, from 32.8% to 11.76%. High economic growth and the implementation of several government welfare programmes, including the Mahatma Gandhi National Rural Employment Guarantee Act, might have played a major role in reducing vulnerability during the period of our analysis.

The extent of poverty and vulnerability (an *ex ante* measure of poverty) varies

across population subgroups. For both periods of analysis, the subgroups with a higher proportion of poor households are also those with a larger share of vulnerable households. This suggests that poverty and vulnerability are highly correlated. Figures 1 and 2 show the poverty rate and rate of vulnerability/VEP across several social groups. We find that the share of poor households is larger for the backward social groups and castes, such as SCs, STs, and Other Backward Classes (OBC), relative to the upper castes (Others and Brahmin). The proportion of vulnerable households is also higher for the backward caste groups.

Although current poverty and vulnerability rates are highly correlated, the association is never close to one. That is, for both periods we find a large percentage of vulnerable households who are non-poor (Table 1). These households are non-poor during the respective periods of analysis, but they have a high probability of becoming poor in the future because of their existing vulnerability.

Table 1: Mapping between Poverty and Vulnerability (%)

	2004–05	2011–12
Vulnerable poor	56.45	43.03
Vulnerable non-poor	43.55	56.97

Each column shows the percentage of vulnerable households who are poor/non-poor for the respective years of analysis.

Source: Based on the authors' calculations using the IHDS 2004–05 and IHDS 2011–12 data.

For both periods, we examined the determinants of vulnerability by regressing vulnerability (a binary variable equal to 1 for a vulnerable household and 0 otherwise) on a host of factors. The results are reported in Tables 2 and 3. Among the host of independent variables used in the regression, we only report coefficients of the factors that are shown to be important and significant predictors of vulnerability.

Table 2 (p 16) reports the regression results corresponding to equation (8) for 2004–05. Table 3 (p 16) reports the same for 2011–12. The first two columns in each table show the results of a probit regression, and the final two columns represent the results of an OLS regression. Results reported in columns 2 and 4 include state-fixed effects in the regression, while columns 1 and 3 exclude the state dummies.

For both periods, having more children significantly raises the probability of being vulnerable (significant at the 1% level across all specifications). As reported in Tables 2 and 3, urban households are shown to be less vulnerable compared to their rural counterparts. The coefficient of the urban dummy variable is negative and statistically significant at the 1% level for both periods and across all specifications. The backward caste (sc, st, or ovc) households are significantly more vulnerable (at the 1% level) for both periods and across all regression specifications. The probability of being vulnerable is also significantly less (at the 1% level) for Hindu households (that

is, it is significantly higher for non-Hindu households). The backward caste and the non-Hindu households are usually deprived in Indian society across various dimensions, and are found to be more vulnerable.

Landholding is a negative and statistically significant (at the 1% level) correlate of vulnerability for 2004–05. The correlation is found to be much weaker in 2011–12. On the other hand, we find the number of elderly members to be a positive and significant correlate of vulnerability in 2011–12. However, the same result does not hold for 2004–05.

The coefficients of the independent variables in the probit regression show the partial effect, that is, they tell us about the direction of the change in probability of being vulnerable. However, the estimated coefficients in Tables 2 and 3 do not measure the actual change in probability. We compute the marginal effect of the independent variables (actual change in the probability of being vulnerable) in the probit specifications, and these marginal effects are comparable to the coefficients of the OLS regressions. This shows the robustness of our findings. We run the regressions by changing the threshold level of probability (that identifies someone as vulnerable) to 0.4 and

0.6 also. The number of vulnerable households increases with the threshold probability of 0.4 and decreases with the threshold probability of 0.6. The same independent variables are also major determinants with alternative thresholds.¹

As mentioned above, the mapping between vulnerable households and those BPL are never one-to-one. We find many non-poor vulnerable households in the sample for each of the periods of our analysis; they are currently non-poor but might be exposed to poverty in the future. Therefore, a natural next step is to examine the impact of present consumption vulnerability on future poverty status. In order to investigate this, we consider both periods of our analysis and evaluate the impact of the level of vulnerability in 2004–05 on the probability of becoming transitory poor in 2011–12. The group of transitory poor is chosen because these are the households who were non-poor in 2004–05 but became poor in 2011–12, and their poverty in 2011–12 was likely influenced by their vulnerability in the earlier period.

The regression results are reported in Table 4 (estimation of regression equation 9). The first three columns of the table report the probit regressions, and the last three report the OLS regressions. In the first and fourth columns, we do not include a control variable. The second and fifth columns control for a host of factors/independent variables.² The regression results reported in columns 3 and 6 also include state-fixed effects. The vulnerability in 2004–05 is found to be a positive and statistically significant (at 1% level) predictor of being transitory poor³ in 2011–12 across all specifications.

Table 2: Determinants of Vulnerability in 2004–05

Variables	Probit	Probit	OLS	OLS
	Vulnerable	Vulnerable	Vulnerable	Vulnerable
Landholding	-0.000754*** (0.000137)	-0.00141*** (0.000209)	-9.48e-05*** (9.73e-06)	-0.000110*** (1.30e-05)
Number of elderly	-0.0212 (0.0158)	-0.0197 (0.0172)	-0.00129 (0.00381)	-0.000207 (0.00364)
Number of children	0.481*** (0.00839)	0.540*** (0.00921)	0.132*** (0.00194)	0.128*** (0.00189)
Urban	-0.665*** (0.0172)	-0.758*** (0.0192)	-0.153*** (0.00381)	-0.156*** (0.00381)
Backward caste	0.522*** (0.0181)	0.456*** (0.0202)	0.115*** (0.00386)	0.0881*** (0.00395)
Hindu	-0.278*** (0.0199)	-0.363*** (0.0227)	-0.0638*** (0.00487)	-0.0771*** (0.00496)
Observations	41,363	41,363	41,363	41,363
R-squared			0.358	0.422
State-fixed effects	No	Yes	No	Yes

The dependent variable “vulnerability” takes the value 1 for a vulnerable household and 0 otherwise. The probability of 0.5 is used as a threshold to identify a vulnerable household (that is, a household is vulnerable if the estimated vulnerability is at least 0.5). The unit of analysis is a household. The first two columns represent the probit regression results, and the last two columns show the OLS regression results. Robust standard errors are in parenthesis. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Source: The authors’ estimation.

Table 3: Determinants of Vulnerability in 2011–12

Variables	Probit	Probit	OLS	OLS
	Vulnerable	Vulnerable	Vulnerable	Vulnerable
Landholding	-0.000159 (0.000181)	-8.57e-05 (0.000211)	-3.30e-05** (1.30e-05)	-3.38e-05** (1.38e-05)
Number of elderly	0.0837*** (0.0206)	0.104*** (0.0222)	0.00881*** (0.00255)	0.00968*** (0.00251)
Number of children	0.520*** (0.0120)	0.543*** (0.0132)	0.0897*** (0.00172)	0.0863*** (0.00168)
Urban	-0.620*** (0.0302)	-0.648*** (0.0337)	-0.0574*** (0.00241)	-0.0607*** (0.00252)
Backward caste	0.143*** (0.0279)	0.219*** (0.0321)	0.0121*** (0.00260)	0.00972*** (0.00269)
Hindu	-0.106*** (0.0289)	-0.188*** (0.0330)	-0.0118*** (0.00345)	-0.0201*** (0.00366)
Observations	42,137	41,883	42,137	42,137
R-squared			0.372	0.394
State-fixed effects	No	Yes	No	Yes

The dependent variable “vulnerability” takes the value 1 for a vulnerable household and 0 otherwise. The probability of 0.5 is used as a threshold to identify a vulnerable household (that is, a household is vulnerable if the estimated vulnerability is at least 0.5). The unit of analysis is a household. The first two columns represent the probit regression results, and the last two columns show the OLS regression results. Robust standard errors are in parenthesis. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Source: The authors’ estimation.

of the independent variables (actual change in the probability of being vulnerable) in the probit specifications, and these marginal effects are comparable to the coefficients of the OLS regressions. This shows the robustness of our findings. We run the regressions by changing the threshold level of probability (that identifies someone as vulnerable) to 0.4 and

Table 4: Vulnerability in 2004–05 as a Predictor of Transitory Poverty in 2011–12

Variables	Probit	Probit	Probit	OLS	OLS	OLS
	Transitory Poor	Transitory Poor	Transitory Poor	Transitory Poor	Transitory Poor	Transitory Poor
Vulnerability in 2004–05	0.346*** (0.0498)	0.946*** (0.0830)	1.333*** (0.0988)	0.0405*** (0.00590)	0.107*** (0.00968)	0.151*** (0.0113)
Observations	39,825	39,825	39,572	39,825	39,825	39,825
R-squared				0.001	0.010	0.024
Controls	No	Yes	Yes	No	Yes	Yes
State-fixed effects	No	No	Yes	No	No	Yes

The dependent variable is a binary variable that takes the value 1 for a transitory poor household and 0 otherwise. The unit of analysis is a household. The first three columns represent the probit regression results and the last three columns represent the OLS regression results. Robust standard errors are in parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Source: The authors’ estimation.

The vulnerability computed in 2004–05 is subject to measurement error and hence the estimated coefficients in Table 4 may suffer from attenuation bias, leading to an underestimation of the coefficients. In spite of this possibility, the coefficient is found to be positive and highly significant, which confirms the robustness of the results.

Concluding Remarks

Some observations can be made from our findings that are relevant from a broad policy perspective. Although there is close correspondence between poverty and vulnerability, these are distinct concepts. In both periods of our analysis, we find a large fraction of vulnerable households who are non-poor. Our empirical analysis shows that vulnerable non-poor households are more likely to slip into poverty. The backward caste and non-Hindu households are found to be more vulnerable. Landlessness and the number of dependents (elderly and children) are also found to be statistically significant determinants of vulnerability.

This article highlights the need for a broader focus on anti-poverty interventions in India. These anti-poverty policies must consider vulnerable households along with currently poor households in poverty calculations, and set their targets accordingly, considering the dynamic aspect of poverty. Regarding limitations, since this article focuses on consumption vulnerability future work needs to address the association between the consumption vulnerability and the other sources of it, which may lead to a multi-dimensional assessment of vulnerability.

NOTES

- 1 The regression results remain almost the same with alternative thresholds of considering a household as vulnerable. Similarly, our results are robust for alternative poverty thresholds, that is, the results remain the same when we use the all-India poverty line instead of state-specific poverty lines.
- 2 These include landholding, household size, proportion of female members in the household, number of elderly members of the household, number of children in the household, educational attainment of the household head (in years), dummy for the marital status of the household head, and dummy for urban area.
- 3 We find vulnerability as a significant correlate of chronological poverty as well. However, the correlation becomes weaker as we control for the fact that the chronically poor households are poor in the initial period as well.

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Assessing the Recent Indian Economic Growth

ALOK SHEEL

Although the headline growth in 2021–22 and the projections for 2022–23 following the disastrous COVID-19 pandemic are impressive, indeed the highest among major economies, this is not the hoped-for v-shaped recovery as the output loss is far from being recouped. India's output loss is among the highest in major G20 economies. It may be difficult for the Indian economy to sustain an average growth above 5% in a business-as-usual scenario because its potential growth has declined through hysteresis, and it faces several headwinds going forward.

Following the sharp decline of -6.6% in real growth in 2020–21, the Central Statistics Office (CSO) has provisionally estimated that the headline growth in 2021–22 would recover smartly to 8.9%.¹ Further, in its April 2022 World Economic Outlook (WEO), the International Monetary Fund (IMF) projects that India would grow at 8.2% in 2022–23 and by 6.9% in 2023–24.² (For comparison with other countries, the IMF's growth estimates for India during 2022 and 2023 are 8.9% and 5.2%, respectively.) The IMF expects India to be the fastest growing major economy during both these years. Is this the much-talked-about v-shaped recovery that has at long last put the faltering Indian economy back on track?

While there also appears to be a strong bounce back in headline growth, revenue, and exports over the near term, it is a challenge for economists to interpret the headline numbers and assess the recovery on account of three separate base effects. There was, first, a declining growth trend prior to the COVID-19 pandemic that saw the annual growth fall serially from 8.2% in 2016–17 to 7.1% in 2017–18, 6.3% in 2018–19, and to 3.7% in 2019–20. Second, this was followed by the precipitous fall of -6.6% in 2020–21 on account of the pandemic when the economy reeled under the twin shocks of a sudden and stringent lockdown during the first phase of COVID-19, followed by a disastrous second wave. Third, interpreting the growth rates in some economic indicators in Table 2 (p 19) for 2021–22 cannot be taken at face value as these are distorted by high levels of underlying price inflation.

Measuring Output Loss

When the second base effect is factored in, the gross domestic product (GDP) numbers show that in real terms India's GDP is 5.7% higher in 2021–22 than what it was in 2018–19, yielding an average annualised growth of 1.9% over the

three-year period. A v-shaped recovery is usually defined as one that fully recoups the output lost during a downturn in the economy. The IMF's latest projections for the Indian economy translate into an output loss of 6.7% of the GDP up to the financial year 2022–23 and 4.9% up to 2023–24 using the average growth rate of the two years preceding the COVID-19 pandemic (that is, 2018–19 and 2019–20) baseline as the trend or potential growth rate. The World Bank's (2022) estimates of 8% and 7.1%, respectively, point to a similar output loss. On the contrary, the Organisation for Economic Co-operation and Development's more recent estimates of 6.9% and 6.2% would translate into a significantly higher output loss.³

Calculations of output loss are sensitive to the potential or trend growth estimate used. This is an unobserved moving target and therefore difficult to determine. The baseline of 5.1% used above is a conservative one as it includes 2019–20 when growth (3.7%) was well below the potential. India's average growth during the five years preceding the COVID-19 pandemic (2015–19) was 6.6%. If this is taken to be India's potential/trend GDP growth rate, the output loss as measured above comes to 13% and 12.6%, respectively. It is however widely believed that India's GDP growth was overestimated under the revised GDP series as this is not corroborated by a host of alternative indicators that are strongly correlated with growth (Sheel 2020). If the five-year average is lowered from 6.6% to 6%, the estimated permanent output loss comes down to 10.4% and 9.5%, which is still very high. How does India's output loss compare with other major G20 economies? While output loss is more accurately measured by working with the levels of GDP (which have been used in the above calculations) rather than GDP growth rates, the latter method is used in Table 1 (p 19) for the limited purpose of benchmarking the extent of output loss in G20 economies over four calendar years 2020–24. The average growth over the two preceding years, that is, 2018 and 2019, is used as the proxy for the potential/trend GDP. This table puts India in the top quartile of countries with the highest output loss.

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The outsized loss in output and growth potential in recent years is also reflected in the measurements of economic activity that are strongly correlated to growth. While unemployment rates fluctuate on a monthly basis, as people keep falling out or entering the labour market, a more robust and durable medium- to long-term measure of employment trends is the labour force participation rate (LFPR). The Centre for Monitoring Indian Economy data show that this fell secularly from 47.7% in January 2016 to 41.9% in March 2020, at which point it fell sharply by over 500 basis points on account of the stringent COVID-19-related lockdown.⁴ While the LFPR recovered during the next two months, the rate has languished over 200 basis points below the pre-COVID-19 level and stood at 40.19% in April 2022. The number of employed has not risen in absolute terms since January 2016 even as the population and consequently the labour force have increased. Even more worrisome is the rising trend in youth unemployment (15–24 years) that rose sharply and continuously from 18.6% in 2008 to 24.9% in 2020.⁵ At over 30%, India along with South Africa currently has the highest percentage of youth who are neither employed nor in education or training among the G20 countries.⁶ This is almost twice the G20 average of 17.1 and also much higher than the BRICS

Table 1: Output Loss in G20 Countries

Country	Output Loss 2021–23 (2018 and 2019 Average Growth as Base)						
	2018	2019	2020	2021	2022	2023	Output Loss
Argentina	-2.6	-2.0	-9.9	10.2	4.0	3.0	16.6
Australia	2.8	2.0	-2.2	4.7	4.2	2.5	-0.4
Brazil	1.8	1.2	-3.9	4.6	0.8	1.4	-3.1
Canada	2.8	1.9	-5.2	4.6	3.9	2.8	-3.3
China	6.8	6.0	2.2	8.1	4.4	5.1	-5.6
France	1.8	1.8	-8.0	7.0	2.9	1.4	-4.1
Germany	1.1	1.1	-4.6	2.8	2.1	2.7	-1.2
India	6.5	3.7	-6.6	8.9	8.9	5.2	-3.9
Indonesia	5.2	5.0	-2.1	3.7	5.4	6.0	-7.4
Italy	0.9	0.5	-9.0	6.6	2.3	1.7	-1.3
Japan	0.6	-0.2	-4.5	1.6	2.4	2.3	1.1
Korea	2.9	2.2	-0.9	4.0	2.5	2.9	-1.7
Mexico	2.2	-0.2	-8.2	4.8	2.0	2.5	-2.9
Russia	2.8	2.2	-2.7	4.7	-8.5	-2.3	-18.8
Saudi Arabia	2.5	0.3	-4.1	3.2	7.6	3.6	4.7
South Africa	1.5	0.1	-6.4	4.9	1.9	1.4	-1.4
Turkey	3.0	0.9	1.8	11.0	2.7	3.0	10.8
United Kingdom	1.7	1.7	-9.3	7.4	3.7	1.2	-3.5
United States	2.9	2.3	-3.4	5.7	3.7	2.3	-2.2

Source: IMF database, <https://www.imf.org/en/Publications/WEO/weo-database/2022/April>.

(Brazil, Russia, India, China and South Africa) average of 25.6 and the global average of 23.4. Various economic activity indicators monitored by the CSO also show that except for rice production, the external sector and metallic minerals, and railway freight, the average annualised growth over the last three years (2019–20 to 2021–22) was below 3% per annum. Several indices are still to recover to the pre-pandemic levels. While comparing these growth rates with the GDP numbers, it must be kept in mind that unlike GDP, some of these indices, such as exports, are not adjusted for inflation.

Engines of Growth

The national income is estimated by the CSO by both the income and expenditure methods. An analysis of both trends can give us a good idea of the sources and engines of growth. The income method indicates that the agricultural sector weathered the pandemic well, growing at an average annualised rate twice that of the GDP; other sectors did not. Trade, hotels, and transport communications had an average annualised negative growth of -1.9%, as these suffered the most from the COVID-19-related restrictions. Financial and real estate services and also public administration and defence continued to grow at over twice the GDP growth rate, but only a thin layer of elite at the top benefit directly from this (Table 3).

The expenditure method can tell us a lot about the engines of growth of the Indian economy. Over the last three years, the government expenditure has been the chief engine of growth, with its average annualised growth being twice that of the GDP. Private consumption, investment,

and exports grew at roughly the rate of the economy as a whole. However, both investment and exports staged a smart recovery in 2021–22, but this was after several years of stagnation and decline that precede the COVID-19 pandemic, and the effect of high inflation over the near term needs to be factored in (Table 4, p 20).

Based on the average long-term trends and the averages that factor in base effects, the current upturn in growth is not v-shaped. Several years of declining growth appear to have reduced India's growth potential through hysteresis. It may therefore be difficult for the Indian economy to grow at an average significantly above 5%—the average rate at which it grew during the two years preceding the COVID-19 pandemic—in the foreseeable future unless the green shoots visible in investment and exports in 2021–22 can be sustained and private consumption bounces back. Over the last three years, the fiscal policy shouldered the burden of sustaining growth on account of the declining private demand. But this came at a great fiscal

Table 2: Average Annualised Growth, 2019–20, 2020–21 and 2021–22

Indicator	2018–19	2019–20	2020–21	2021–22	AG
Rice production	100	100.7	103.922	110.573	3.5
Production of coal	100	99.6	97.7	106.0	2.0
Production of crude oil	100	94.1	89.2	86.9	-4.4
Production of cement	100	99.1	88.4	106.8	2.3
Consumption of steel	100	98.5	93.3	103.6	1.2
Sales of commercial vehicles	100	71.2	56.4	71.1	-9.6
Purchase of private vehicles	100	82.2	72.6	67.3	-10.9
Cargo handled at major ports	100	100.9	96.3	103.2	1.1
Cargo handled at airports	100	91	69.2	89.1	-3.6
Passengers handled at airports	100	98.9	33.4	54.7	-15.1
Railways net tonne kms	100	95.5	96.6	116.8	5.6
Railways passenger kms	100	90	19.8	51.1	-16.3
Exports of goods and services	100	99.2	97.6	133.4	11.1
Index of Industrial Production mining	100	101.6	93.7	105.1	1.7
IIP manufacturing	100	98.6	89.1	104.3	1.4
IIP electricity	100	100.9	100.4	108.4	2.8
IIP metallic minerals	100	113.9	94.9	118.3	6.1
Combined tax collection	100	98.6	96.9	116.8	5.6
Real GDP	100	103.8	97	105.7	1.9

Source: CSO (various press notes), RBI (2022).

Table 3: Sources of Growth—Income Method (%)

	2018–19	2019–20	2020–21	2021–22	AG
Agri, forestry, fishing	100	104.3	107.7	111.0	3.7
Mining quarrying	100	97.5	89.1	94.0	-0.2
Manufacturing	100	97.6	97.0	106.6	2.2
Electricity, gas water other utilities	100	102.1	98.4	105.8	1.9
Construction	100	101.0	93.6	104.4	1.5
Trade, hotels, transport, communication	100	106.4	84.9	94.3	-1.9
Finance real estate professional services	100	107.3	109.7	114.3	4.8
Public administration and defence	100	108.3	102.3	115.2	5.1

Source: CSO (various press notes).

cost, as the central government expenditure grew at three times the rate of growth of tax revenue. The fiscal consequence of this was that the centre's fiscal deficit grew by an annualised average of 46% and its public debt by 16% during the last three years. This is unsustainable going forward from the macroeconomic perspective. The burden for growth would need to shift back quickly from the government to the private demand and government finance should be put back on track (Table 5).

If the current levels of high headline growth are the lagged effect of two successive years of low growth, the base effect can work in the reverse direction as well. It might be difficult to sustain high headline growth following two successive years (2021–22 as actual and 2022–23 as forecast) of outsized growth. Going forward, growth also faces headwinds from high oil prices and monetary policy tightening by the United States (US) Federal Reserve, worsening public finances, and stagflationary trends that have no monetary policy solution.

In Conclusion

The question that needs to be asked is, why is the Indian output loss so high relative to other major economies? India's potential growth was falling sharply in the pre-COVID-19 period. It grew at an average of 7.7% over 14 years between 2003–04 and 2016–17 as all three engines of growth, namely exports, investment, and consumption were firing. Its growth started to decline as the export and investment engines started stuttering. As a result, its annual growth fell serially and sharply from 8.3% in 2016–17 to

Table 4: Engines of Growth—Expenditure Method (%)

Method	2018–19	2019–20	2020–21	2021–22	AG (%)
GDP	100.0	103.8	97.0	105.7	1.9
PFE	100.0	104.8	98.5	106.0	2.0
GFE	100.0	103.9	107.6	112.8	4.3
GFCF	100.0	102.8	92.1	105.5	1.8
XGS	100.0	96.2	87.4	105.8	1.9

Source: CSO (various press notes).

Table 5: Fiscal Impact

	2018–19	2019–20	2020–21	2021–22	AG (%)
Net tax revenue	100	98	98	120	7
Total expenditure	100	116	149	164	21
Gross fiscal deficit	100	145%	282%	238%	46
Public debt	100	113%	132%	148%	16

Source: Controller General of Accounts (cga.nic.in).

6.8% in 2017–18, 6.5% in 2018–19, and to 3.7% in 2019–20. The third engine, private consumption, also started stuttering over the last three years with the COVID-19 pandemic.

The declining trend prior to that is attributed by observers to the tardiness in addressing the long pending issue of stranded banking assets and policy missteps such as the demonetisation of the economy and a hastily implemented transition to a complex goods and service tax that had an adverse fallout on India's buoyant informal economy that accounts for a major share of economic activity, including both exports and investment. The decline in consumption is more recent. Beyond this, there is now some confusion in the minds of private corporate investors on the economic policy road map laid out in the early 1990s, following which the Indian economic growth moved into a higher gear. The absence of predictability, including reversals in the road map, and the perceptions that there is no longer a level playing field, may have sapped the animal spirits of the private investors. India has kept out of regional free trade agreements, and there is a lack of clarity on whether the Atmanirbhar Bharat Abhiyaan is meant to incentivise domestic production or as a return to self-reliant growth as both customs tariffs have increased and the share of exports in the economy has shrunk. The extraordinary decline in economic activity in 2020–21 is ascribed to the suddenness and stringency of the COVID-19-related lockdown in an economy overly dependent on the informal and the micro, small and medium enterprises sectors.

What has happened to the India story and what are its prospects going forward? The Indian economy sustained an average real growth of almost 8% for close to a decade and a half. The WEO projections continue to show India as the fastest growing major economy. Over the medium to long term, India's relative growth potential remains high. It has several inherent strengths, not the least of which are its economic size, its large domestic market, high savings, young population, a fast-growing middle class, cheap and abundant labour, strong private

entrepreneurship, capacity to absorb large investments in infrastructure, and well-known strengths in the sunrise information age and pharma-linked economic activities. India's investment needs are high in a demand-constrained world with a savings glut. With good economic management, it can be a major growth driver for the global economy.

While India's medium-term growth potential/trend has declined through hysteresis, its long-term prospects for raising the current growth remain intact and are waiting to be unlocked. The overall ease of doing business, low labour productivity, continuing large infrastructural gaps, addressing perceptions regarding governance and social order, and assurances of a level playing field also need to be addressed to the satisfaction of private investors. The return of animal spirits, and with it its private investment, can be considered as the proverbial canary in the gold mine that would herald the return to a high growth trajectory. The reversal of the US Fed monetary policy and the rising inflation and oil prices, a negative environment for exports and a weak fiscal position are likely to be the major challenges for the Indian policymakers going forward, apart from reassuring private investors about a stable and even-handed policy environment.

NOTES

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A Comedown

Kerala Town and Country Planning Act

JACOB EASOW

The Kerala Town and Country Planning Act, 2016 was considered a pioneering act that aligned with the 74th constitutional amendment. However, in October 2021, this act was amended. This article analytically examines the amendments made with respect to the provisions of the principal act. It discusses how there has been a dilution of important provisions of the act alongside major changes to Kerala's planning system.

Before 2016, there was no single unified state law that governed spatial planning activities in Kerala. There were several erstwhile British laws in force for administering town and country planning activities in the state that were a century old, namely the "Town Planning Act, 1108" and the "Travancore Town and Country Planning Act, 1120" in the erstwhile Travancore-Cochin area, while the Malabar area of the state was under the "Madras Town Planning Act, 1920." Only the provisions for the preparation of master plans (general town planning schemes) and detailed town planning schemes, both at the local level, were included in these legislations. The Kerala High Court had directed the government to bring in an integrated legislation on town and country planning in a time-bound manner, which in turn led to an act getting passed on 17 March 2016 (Easow 2016).

A Landmark Act

The editorial of an urban planning journal, the *Spatio-economic Development Record* (SDR Editorial 2016), congratulating those behind the introduction of the Kerala Town and Country Planning Act, 2016, stated,

It can be termed as a pioneering Act for planned development of local planning areas comprising boundary of various municipalities, town panchayats and village panchayats. Provision has been made for preparation of Master Plan, Execution Plan, Land Pooling Schemes and Town Planning Schemes. Chapter VI provides for Joint Planning Committee and planning for the joint planning area. It is a unique provision, which enable rural and urban local bodies to come together and join hands in planning and development of their area in an integrated and mutually beneficial manner. It ensures rural urban continuum and opens up immense opportunities for the periphery of large cities and corridors along major highways or waterways. It also provides legal support to urban clusters and other clusters

around industries or tourist centres or such other activity centres.

The Kerala Town and Country Planning Act envisages plans for the state, metropolitan areas, districts, local areas, and micro-level areas. The act provides for the formation of a state town and country planning board with its main function to be the preparation of a state perspective plan. Besides, the board can prepare regional plans for areas transcending district boundaries and also subject plans.

In conformity with the Constitution (74th Amendment) Act (CAA), the Kerala Town and Country Planning Act, 2016 details the process of preparation and statutory processing of "the draft development plan for the district as a whole" by the district planning committee (DPC) on a spatial planning platform. The district development plan envisaged in the Kerala Town and Country Planning Act comprises a long-term (20-year) perspective plan and midterm (five-year) execution plans.

In accordance with the CAA, the preparation of plans of the local area (master plan and execution plan) is entrusted with local governments under this act. In addition to the urban local governments like municipal corporations, municipal councils, and town panchayats, each village panchayat can also prepare a master plan and an execution plan for its jurisdictional area. Nevertheless, considering that the characteristics of the "urban" are not limited to municipal boundaries, there is a need for planning for wider areas outside municipal limits. In such cases, the conventional approach for planning for these areas is through the constitution of a development authority, which, however, contravenes the spirit of decentralisation. However, this act put forth a solution for this issue by providing for the creation of a joint planning committee (JPC), conceptualised by borrowing the spirit of metropolitan planning committee (MPC) in the CAA. The democratic principle is kept intact by insisting that two-thirds of the members of the JPC shall be elected members of the local governments of the joint planning area (proviso to Section 41 of the act). In such joint planning areas, "developmental" plans, like the execution plan, are to be prepared and implemented by

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Figure 1: The Planning System Envisaged as per the Kerala Town and Country Planning Act, 2016

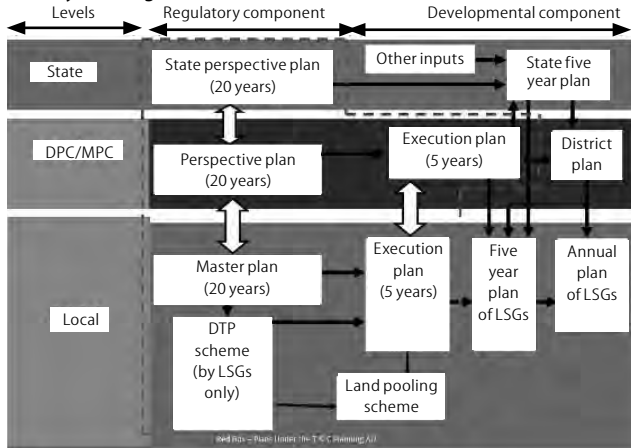
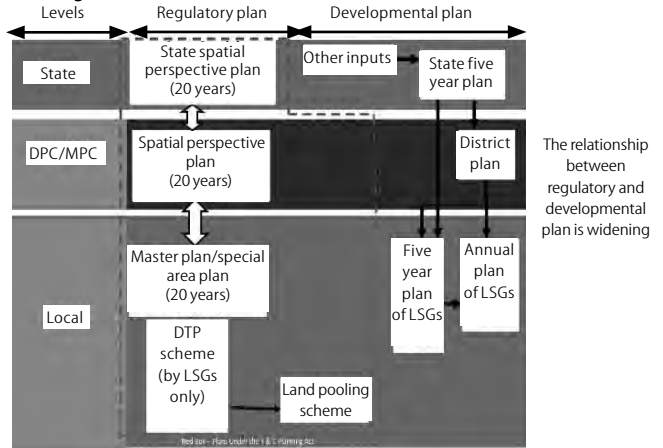


Figure 2: The Reverted Planning System as per the Kerala Town and Country Planning Act, 2021



local governments only. Other novel provisions include setting a time frame for legal process, interim development order, purchase notice, etc, along with the provision for the constitution of the Kerala urban art commission for preserving, developing and maintaining the local assets of value within the state (Easow 2016).

The Kerala Town and Country Planning (Amendment) Act, 2021

Tracing the origins of the Kerala Town and Country Planning (Amendment) Act, 2021, there is no clarity on why the principal act was amended. Starting with achieving decentralised planning as an expressed key concern of the then governor,¹ this then led to a workshop² followed by the constitution of a sub-committee,³ interestingly later referred to as Vijayanand subcommittee⁴ to bring out draft proposals for the amendment based on the suggestions made in the workshop. Nevertheless, the sub-committee functioned in an unfair manner and added many new suggestions that undermined the power of DPC and MPC and the spirit of decentralisation as under:

- (i) It is proposed to tag the plans under this act for the state/district/metropolitan area with a prefix of “spatial” example spatial perspective plan instead of perspective plan for the state/district/metropolitan area.
- (ii) Rename the Execution Plan (EP) as “Priority Action Plan.”
- (iii) Rename “State Town and Country Planning Board” as “State Town and Country Planning Committee.”

(iv) Rename “Kerala Urban Art Commission” as “Kerala Art and Heritage Commission.”

(v) In addition, a few definitional changes were also proposed.

Later, after the devastating floods in Kerala in 2018, the state government decided to revise the Kerala Town and Country Planning Act through a government order⁵ as part of the “Rebuild Kerala Initiative” with a view to enable better planning of urban areas so that they withstand the impact of sudden high-intensity floods and other natural disasters. Based on the above order, the government in principle approved the amendment to the Kerala Town and Country Planning Act, 2016.⁶ It was recommended to modify the content of the various plans in the act by adding risk-informed plans. Other recommendations in the order include:

- (1) The provision for execution plan to be omitted and the provision to include priority action plan in the master plan by the local self-government concerned to be incorporated in the act.⁷ The cited reason is that the legal procedures for the sanction of the execution plan are long.
- (2) Enabling provisions for the newly sanctioned master plan to suspend the proposals of the detailed town planning schemes.
- (3) To regulate developments until the date of publishing of a master plan in full. In the principal act, the sanctioning date marks the start of operation of the master plan and interim development order is applicable for regulating the sanction period of the plan.
- (4) Enabling DPC for publication and processing of the master plan.

(5) Enabling the government for publication, processing and sanctioning the master plan.

(6) As per the principal act, if any land is earmarked for compulsory acquisition in a plan and if the authority is not acquiring after two years from the date of coming into operation of the plan, the affected person can serve a purchase notice to the concerned authority for compulsory acquisition. The concerned authority can then either choose to acquire the land within the next two years (it means that the authorities will get four years altogether) from the date of purchase notice for the said land or may release it from compulsory acquisition by modifying the plan. The cited government order also recommended deleting this provision. However, this amendment was deleted at a later stage.

Clearly, the above six recommendations are not about addressing the

Rebuild Kerala initiative’s disaster resilience planning concerns that set in motion the call for revision of the Kerala town and country planning act. Yet these were craftily inserted in the government order through, what can be called an act of *administrative smuggling*.

The Kerala assembly enacted the Kerala Town and Country Planning Act, 2016 after promulgating seven ordinances. The Kerala Town and Country Planning (Amendment) Act, 2021 is regressive on several counts that are briefly discussed here.

Planning System

The Kerala Town and Country Planning Act, 2016 had traced a new planning system for Kerala. The act defines “spatial planning” in a classic manner stating that

spatial planning means a scientific discipline adopted for town and country planning, with a comprehensive approach, for the physical organisation of space according to an overall strategy, directed towards promoting sustainable and inclusive development of urban and rural areas providing geographical expression to developmental, economic, social, cultural, environmental and ecological policies of society.

It then goes further by introducing the medium-term (five-year) execution plan at regional as well as local levels. Thus, the principal act identifies spatial planning as a key instrument for establishing long-term sustainable frameworks for development both within and between planning areas and a platform for integration between sectors as well (United Nations 2008). Figures 1 and 2 (p 22) depict the planning system before and after the amendment to the Kerala Town and Country Planning Act.

Clearly, there is a wide gap between the master plans, which are spatial and economic plans (five-year plans/annual plans/people planning campaign plans) in the reverted planning system. In order to link the spatial and the economic plans effectively, there is a need to introduce a spatial medium-term (five-year) plan. In other words, the spatial platform of the medium-term plan, which was seen as a key necessity to help bridge the five-year plans (financial plans) and the long-term plans (master plans of regulatory nature), needs to be reintroduced under the new planning system.

The shorter-term five-year medium-term plan (execution plan, in the principal act) is a spatial plan that helps prioritise projects as against the master/perspective/long-term 20-year plans. Though the medium-term plan is for a shorter duration, long-term objectives are considered as it is formulated within the ambit of the master plan of the city/region. Such a spatial plan will act as a platform for integration between sectors for our local governments as it will be a key instrument for solving our challenges within sustainability frameworks. Five-year medium-term plans will be more effective, will appropriately fit within our democratic process, and are particularly relevant for people's participatory planning. Such an execution plan, within

the Kerala Town and Planning Act, was envisaged to provide the perfect opportunity for our local bodies to act as local self-governments and enable good governance. Each subsequent local self-government elected after every five years will have a right to review this execution plan prepared by their predecessors and modify or prepare it anew according to their own priorities and development agenda. The provisions of the principal act of the execution plan are seen as a separate entity from the execution plan. The execution plan has to be sanctioned (see Section 37 of the principal act) by the DPC only. This procedure has been followed in the peoples' planning campaign for the sanctioning of plans and projects of local governments. Clearly, the sanctioning procedure of the execution plan is extremely simple and easy. In short, the provision for an execution plan is essential for a dynamic and flexible spatial planning system in Kerala. In the absence of such a medium-range plan, the master plan will be reduced to only a paper plan. (This is also a key reason why our present master plans are not successful in the implementation of development projects.)

The Kerala Town and Country Planning Act, 2016 (the principal act) lists the following matters to be dealt with in the execution plan:

- (i) Development issues and consolidation of suggestions of *grama sabha*/ward *sabha*/ward committee.
- (ii) Development strategies for integrated development.
- (iii) Sectoral development policies, strategies, and proposals.
- (iv) Implementation mechanism.
- (v) Fiscal requirements and resource mobilisation proposals.

Therefore, it was meant to integrate the master plans and the five-year plans/annual plans/local plans of the local governments and enable locally elected governments to effectively spatialise their projects in the short term while working within the larger master plan framework. Various key national urban development guidelines,⁸ including the recommendations of the recent state report of Rebuild Kerala Development Programme (RKPD) (Government of Kerala and Rebuild

Kerala 2019), emphasise the need for a medium-term plan on a spatial platform in between the master plan and the financial plan. Thus, the amended planning system will, in fact, be a step down to an unrealistic development scenario.

Constitutional Violation

Article 243ZD(1) of the Constitution lays down that

there shall be constituted in every state at the district level a district planning committee to consolidate the plans prepared by the panchayats and the municipalities in the district and to prepare a draft development plan for the district as a whole.

Further, Article 243ZD(3)(a) of the Constitution outlines the scope of the plan as including

(i) matters of common interest between the panchayats and the municipalities, including spatial planning, sharing of water and other physical and natural resources, the integrated development of infrastructure and environmental conservation, (ii) the extent and type of available resources whether financial or otherwise.

Further, the "Expert Committee on Leveraging Panchayats for Efficient Delivery of Public Goods and Services" (Mani Shankar Aiyar Committee Report 2013) while commenting on Article 243ZD(3) (a) lists "planning in a spatial platform" as one of six aspects⁹ as part of the district planning methodology envisaged in the Constitution. Therefore, it is obvious that the draft development plan has to be enacted in the town and country planning act. The amendment resulted in the omission of Section 13 of the principal act and tagged the plan in the act as "spatial perspective plan" for the district and considered as the spatial component of the draft development plan for the district. This state act limits the power of the DPC to prepare only a spatial plan, while the Constitution entrusts DPC with the responsibility of preparing a comprehensive plan (Easow 2019). Therefore, adding the term "spatial" before the plan goes against the constitutional provisions of Article 243ZD.

One of the core principles of the decentralisation is the convergence or integration along with avoiding multiplicity of plans and agencies.¹⁰ But in the amendment, all the plans under this act are prefixed with the term "spatial" (for example,

spatial perspective plan for the district instead of perspective plan for the district) reducing them to just one among many sectoral district plans, as against the provision in the act for an unified single “perspective plan for the district.” Thus, the amendment is in violation of decentralisation principles and will lead to greater fragmentation of integrated district planning, and effectively defeats both the objectives of forming the DPC and the CAA.

Technically, there is also no stand-alone spatial plan since spatial planning is a platform for plan preparation.¹¹ Nowhere in any town and country planning act is the word “spatial” added before a plan. Therefore, the amendment to prefix the term “spatial” before the plan is constitutionally (legally) and scientifically flawed.

Belittling the Town and Country Planning Profession

The amendment to rename the “State Town and Country Planning Board” as the “State Town and Country Planning Committee” can have no justification since the former is an apex body in Kerala for spatial planning/town planning. Similarly, there can be no justification for the amendment to delete the existing independent Department of Town and Country Planning in Kerala and relegating it to a planning wing of the local self-government department. The basic function of the chief town planner (CTP) and their subordinates is of the plans of the local self-governments for the state government as per the amendment act. Since the CTP is dealing with the Government of Space (Ravetz 1986) for the state government, the CTP shall have to be attached to the state government only and shall have to enjoy full independent freedom considering the very technical nature of the subject of town planning. This freedom can only come via a separate department as guaranteed by the Constitution of India. Both the amendment provisions can only be considered as an attempt to disgrace the town and country planning profession.

There is a need to review the amendments and restore the original provisions of the principal act of 2016. Further, both academicians and practitioners need to brainstorm the recent developments in Kerala Town and Country

Planning Act and address how the urban planning profession can regain its power and attain its true potential.

NOTES

- 1 Addressing the Kerala legislative assembly on 24 June 2016, Justice P Sathasivam, the then governor of Kerala said, “My government proposes to restructure the present Kerala Town and Country Planning Act, 2016 to fully reflect the spirit of decentralised planning as relevant to the State.”
- 2 The government arranged a well-attended workshop at the Institute of Management in Government, Thiruvananthapuram on 28 December 2016.
- 3 Extract of the minutes of the workshop: “A sub-committee is constituted, to discuss the above suggestions and bring out draft proposals for amendments to the Act, with the following members: P K Ravindran, A Kasturi Rangan, former Chief Town Planner, K Remanan, Chief Town Planner, Shaji Joseph Chief Town Planner (Planning), T M Sudha, Former Chief Town Planner, Jacob Easow, former additional Chief Town Planner, Prasannakumari, Chief (in/charge), Decentralised Planning Division, State Planning Board; and J B Rajan, assistant professor, KILA.”
- 4 This committee is referred to as the Vijayanand Committee in the GO(MS) No 63/2020/LSGD dated 13 April 2020, perhaps in an attempt to grant greater sanctity to the suggestions of the sub-committee.
- 5 Vide GO (MS) No 48/2019/LSGD dated 7 May 2019.
- 6 Vide the GO(MS) No 63/2020/LSGD dated 13 April 2020.
- 7 As per item six of the Annexure 1 of the GO (MS) No 63/2020/LSGD dated 13 April 2020.
- 8 Government of India’s Model Town and Country Planning Law (Model Regional, Town Planning and Development Law—Revised), the National Commission on Urbanisation, the Draft National Land Utilisation Policy 2013.
- 9 The other five are: the development needs of the rural and urban areas should be dealt with in an

integrated manner; assessment of physical and natural resources of the district and sharing proposals; need of integrated approach in the development of infrastructure; environmental conservation; and financial investment plans.

- 10 Refer to the report of the Second Administrative Reforms Commission (2007), <https://darpg.gov.in/arc-reports>.
- 11 Refer to the “Towards Holistic Panchayat Raj” report by the Mani Shankar Aiyar Committee Report, Vols 1 and 2, 2013, http://www.nrcddp.org/reports_view.aspx?R_id=National%20Level.

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B D Chattopadhyaya (1939–2022)

SUCHANDRA GHOSH

An overview of the intellectual trajectory and contributions of B D Chattopadhyaya, the departed historian and thinker, underscores his role as a crusader against the homogenised representation of Indic pasts.

Brajadulal Chattopadhyaya, a historian par excellence, passed away on 13 July 2022. The discipline of the early Indian history lost one of its strong exponents who never budged to any kind of fundamentalism.

I never sat in his class and came to know him personally much later in my life in 2001 during the Indian History Congress Session in Calcutta University. Occasional visits to Jawaharlal Nehru University (JNU) flowered our relationship, which further strengthened when he came back to settle in Kolkata post retirement. Our conversations would meander across many themes, academic/non-academic, and I always came back home with a sense of fulfilment and happiness. Thus, my intellectual debt to him is immense. Osmund Boppearachchi and I tried to pay our tribute to him through a festschrift, *Early Indian History and Beyond: Essays in Honour of B D Chattopadhyaya*, a bouquet of 26 essays written by his colleagues, students, and friends. During the book launch by Romila Thapar at the India International Centre, New Delhi, BDC (as he was called), in his inimitable, quiet way accepted the honour and spoke a few words, worthy of many. There was no expression of exuberance, but the twinkle in his eyes and the smile said it all.

His schooling partly was in a village in Bardhaman and later in the Uttarpara Government School, West Bengal. On completion of his intermediate from the Government Sanskrit College, Kolkata, Chattopadhyaya joined the Presidency College, Kolkata for studying history honours, where late historians D N Jha and Sabyasachi Bhattacharyya were his classmates. He earned his master's degree with specialisation in epigraphy and numismatics from the Department of Ancient Indian History and Culture, University of Calcutta. His initiation into the world of epigraphy was under D C Sircar, the doyen of Indian epigraphy. He was a research scholar in the Department of Archaeology till he joined the

Department of History, University of Burdwan in 1963. Chattopadhyaya became a Commonwealth Research Scholar in 1966 and pursued PhD at the Corpus Christi College, Cambridge University under the supervision of F R Allchin. He joined the Centre for Historical Studies, JNU as assistant professor in 1971 after the completion of his doctoral research in 1970 and retired as professor in December 2004. In between he taught at Visva-Bharati, Santiniketan from 1978–80 as a professor and head of the Department of Ancient Indian History, Culture and Archaeology and was a visiting professor to several universities abroad like Heidelberg, Leipzig, and Chicago, and was the recipient of the German Academic Exchange Service (DAAD) grant and an Indo-US fellowship.

From Epigraphy to the History of Polity

Chattopadhyaya stood out for his outstanding ability to combine empirical soundness and critical acumen with a deep understanding of the methods used in the social science disciplines. The diversity of themes addressed by him betrays the range of his scholarship and shifting areas of interests. His seminal writings have added substantially to our understanding of early Indian history and, in many cases, transformed it. If one follows his trajectory of publications, the shift in his choice of themes pertaining to different branches of historical studies becomes evident. I shall try to address some of his major contributions and concerns.

The publication of his doctoral dissertation as a book titled *Coins and Currency Systems in South India, c AD 225–1300* in 1977 saw the beginning of his scholarly oeuvre. For this book, he was awarded the Prix Duchalais by the Académie des Inscriptions et Belles-Lettres, Institut De France, in 1978. He provided a fresh and detailed enquiry into the question of the attribution and chronology of South Indian coins along with the currency system. He situated monetary trends within their economic and commercial contexts. It was not an easy task for a student trained in Bengal to get a perfect grip of the South Indian historical scenario as it is so meagrely represented

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in the syllabus. No book could replace this seminal work till today. Chattopadhyaya continued to have his occasional foray into the world of coins when he wrote a brilliant analytical introduction, to D D Kosambi's *Indian Numismatics* with a thrust on Kosambi's methodology, published in 1981 or a chapter on "Coinage of South India," in *A Comprehensive History of India*, Volume IV, Part II edited by R S Sharma and K M Shrivastava, published in 2008. In the same year, he also wrote "D D Kosambi and the Study of Early Indian Coins" for a special issue of *Economic & Political Weekly* dedicated to him.

However, the wider world of economic and social history attracted his attention. Perhaps after joining JNU, his interactions with senior colleagues like Thapar and S Gopal broadened his vision. His stint at the Indian Institute of Advanced Studies, Shimla, as a fellow, could also be instrumental in this change of direction.

Regional studies became central to his work since the early 1970s, and he chose Rajasthan as a case study. Several essays on irrigation, hero stones, markets, and merchants of Rajasthan were published. For irrigation and markets and merchants, his main database came from his deft use of inscriptions. He drew our attention to the role of *araghattas*, the irrigation device, which, apart from being an important landmark in the rural space of Rajasthan, was linked with economic and social power. The statistical analysis of his inscriptional database helped him to show how an extreme arid region like Marwar in Rajasthan experienced change in demography with the introduction of induced irrigation. One has to learn from him the methodology to use epigraphy as an explanatory tool for understanding historical processes. The case in point could be the way he demonstrated the transformation of Naddula grama (Nadole in Rajasthan) from a middle-category market centre (*mandapika*) to a centre of power of the Chahamanas on the basis of a close reading of epigraphic records.

Chattopadhyaya was more and more drawn into understanding political processes during the mid-1970s, and his path-breaking essay on the "Origin of

Rajputs" was one in that direction. He argued for Rajput networks through the expansion of dynastic relations towards a wider arena of social relations. Thus, according to Chattopadhyaya, the emergence of the Rajputs was initially a political process, which in the later stage became a comprehensive social phenomenon. Then comes the phenomenal Indian History Congress Sectional Presidential Address (Ancient) in 1983, entitled "Political Processes and Structure of Polity in Early Medieval India." It is remarkable that when the general trend of history writing in the 1980s revolved around society and economy, he chose polity as the theme of his presidential address.

Chattopadhyaya made significant interventions in the feudalism debate holding high the flag of those historians who did not conform to the concept of Indian feudalism. As a response to the idea of feudalism, which posits a fragmentation of authority after the sixth century, Chattopadhyaya talks about the integrative process that led to the making of a new political and social formation. Here, he was joined by Hermann Kulke. He laid the conceptual contour of a state society. His notion that political process should be seen in terms of corresponding economic, social, and religious processes opened up avenues for further research. His major interventions were in the domains of trade, markets, and urbanisation. The notion of "third urbanisation" rooted to its regional context in the early medieval India was Chattopadhyaya's foremost contribution to our understanding of the process of urbanisation. He urged to view the urban centres as cultural spaces too where convergence, cacophony, and heterogeneity were the key elements. While looking at the "urban," he was concurrently examining the "rural." In 1985, he delivered the Deuskar memorial lectures at the Centre for Studies in Social Sciences, Calcutta, on the changing social and spatial profiles of early medieval rural settlements belonging to three different regions: Bengal, Rajasthan, and Karnataka. This was later published as a monograph titled *Aspects of Rural Settlements and Rural Society in Early Medieval India*, in 1990 (reprinted by Primus Publications in 2017).

He was against understanding the complex and stratified rural society from approaches that provide a simple binary picture. Chattopadhyaya, for the first time, took note of the supra-village social relationship of peasants in the Gupta period and referred to the changes in the early medieval period, especially the rise of local magnates. Emmanuel Le Roy Ladurie's *Montaillou, Cathars and Catholics in a French village, 1294-1324* was one of his favourites and he wished we had such records.

Though Chattopadhyaya is celebrated as a historian of the early medieval India, he had given us certain path-breaking essays in relation to early historical India which forced us to have a critical look at the period. *Studying Early India: Archaeology, Texts and Historical Issues* was published in 2003. In his own words, the articles in this book suggested "ways of looking" at various facets of early India. Historical issues combined with archaeology and text played a central role in two of the sections of the book. The third section was devoted to historiography. He voiced his concerns against all sorts of fundamentalism, textual and archaeological, and felt that this could not be a deterrent to the dynamism of the discipline of history.

Underscoring Heterogeneity

From the mid-1990s, one could see in Chattopadhyaya's writings a trend in foregrounding social and cultural aspects of early India where he underscored diversity/plurality/heterogeneity. He cautions us against ignoring diverse

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sources, diversity of opinions and positions on social issues in his compelling introduction to *A Social History of Early India*, written in 2009. Taking varna as a key term, he eloquently discussed the complexities of Indian society and also emphasised the fact that, for a nuanced understanding of society, we have to take into consideration the so-called “others” who are considered to be beyond the varna-jati system. In the context of the “other,” I would like to bring here his *Representing the Other? Sanskrit Sources and the Muslims* (1998) where Chattopadhyaya examines how the “other” in Indian history, particularly Muslims, have been perceived and represented by historians as well as their readings of sources. The question mark after “other” is noteworthy. He argued after sifting through a wide range of epigraphic records that “Muslims,” known through a set of names like Tajikas, Turushkas, and Mlechchhas were not always represented as the “other”; the main marker of identity is not religion but ethnic and regional identities. This slim but dense book is also a serious critique of Sheldon Pollock’s “Ramayana and Political Imagination in India,” as Chattopadhyaya dissected each category of Pollock’s evidence for the invention of the king as Rama and the growth of devotion towards Rama. The time when Pollock wrote his essay is significant, as it was published in 1993, just after the demolition of the Babri mosque.

Among his edited volumes, *Combined Methods in Indology and Other Writings: D D Kosambi* was compiled, edited, and introduced by him in 2002. It is no mean task to write an introduction to a selection of 53 essays by a savant like Kosambi. The introduction offers a perfect window to read and comprehend Kosambi’s works, which are indeed complex. One needs to have an idea of the persona of Kosambi and his concerns and preferences to really get to the bottom of his writings.

Chattopadhyaya’s last major publication, *The Concept of Bharatavarsha and Other Essays*, challenges the dominant historiography in one way or other. It is an anthology of eight essays and I shall take up the first and the last essay here. The essays in the book reflect, as always,

the critical use of a variety of sources and its perfect meshing with the context, his hallmark. In his essay on the *Concept of Bharatavarsha and Other Essays*, he emphasises that the idea of Bharatavarsha was not static but underwent contradictory development stages. To him “the many meanings embedded in our sources” need interrogation. He questions the way Bharatavarsha is depicted as a homogenised land completely ignoring the multiplicity of people and spaces.

Chattopadhyaya alone could have thought to challenge the worn-out concept of the imagined age-old territorial and cultural unity of India, which does not recognise the presence of multiplicity in his essay “Interrogating ‘Unity in Diversity’: Voices of India’s Ancient Texts.” This was his general president’s address at the Indian History Congress, Platinum Jubilee Session, 2014. He stated that the overdue question is

if “diversities” of a country (in whatever sense the term “diversity” is used) are seen to have coalesced into a structure of unity, how do networks of diversities function within what is perceived as “unity”? (p 190)

Dialogue over Dogma

His most-talked-about book *The Making of Early Medieval India* was published with a completely new introduction titled as “Passages from the Classical towards the Medieval: Understanding the Indian Experience” in the Oxford India Perennials

series in 2012. Chattopadhyaya sincerely believed that “history requires its various trajectories of change to be studied, as it requires a change in the set of historians too.” For him, “history is a continuous dialogue between historians themselves.” Chattopadhyaya stands as a perfect exemplar of Kulke’s category of “non-aligned historians.” His writings reflected his critical mind, and his method of interrogating the sources were unique. To give an example, when—for studying land grants—historians concentrated mainly on the genealogy, donation, and the nature of the donee, he was the first person to study the boundary markers of the plot of land donated and illustrate how one can identify the people and the rural landscape from them.

The dedication page of *Representing the Other?* epitomises Chattopadhyaya’s sensitive mind where he dedicated the book in humility to the memories of Abdul Karim Khan, Allauddin Khan, Bundu Khan, Faiyaz Khan, and Sawai Gandharva. He was an unassuming man walking down the lane always with a shoulder bag (*jhola* in Bangla) with no air of scholarship. He was highly approachable and encouraged young scholars. His sense of humour was epic. We shall miss a brilliant mind, an erudite scholar, a firm and sane voice that was against all kinds of dogma and who preferred to be a lone crusader instead of joining the bandwagon.

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The Census and the Minoritisation of Muslims

M N PANINI

This book is about the governmentality of colonial India and its social consequences. The author does an impressive survey of the massive information that the British government generated to rule over India. Proliferating with cultural diversities, India must have confounded many foreign rulers in exercising the untrammelled authority. Accounts of administrators, explorers, soldiers, missionaries, and ethnographers provided some insights when confronted with local or regional issues, but for extending its territorial interests and managing dissension, a macrosocietal profile becomes essential. Hence, the British government inaugurated the institution of conducting an all-India decennial census in 1881. The government of independent India has been carrying forward this colonial legacy; several of the social issues and problems that cropped up during the colonial era are re-emerging, cast in the language of citizens' rights and the right to equality.

There is already an enormous body of scholarship demonstrating how the British used the census to perpetuate their hold on India. Historians, sociologists, and anthropologists have commented extensively on the colonial government justifying its "civilising mission" by projecting India as a superstition-ridden, fractious land marked by oppressive hierarchies that perpetuated the social status.

Several scholars have now commented that the British rulers not only used the census to conform and objectify their prejudices about India but they also institutionalised its construction of the social reality of India as the subjects' own societal perception. No wonder, the leaders of India's freedom struggle in the 20th century were suspicious of the censuses. They regarded the decennial

BOOK REVIEWS

Alpasankhyataru Mattu Jaati Vyavasthe: Asmite, Vasahatushahi mattu Misalati (In Kannada; Minorities and Caste System: Identity, Coloniality and Reservations) by Muzaffar Assadi, Bengaluru: Bahurupi, 2021; pp 264, ₹300 (hardcover).

census as a tool of the covert policy of divide and rule.

Lines of Demarcation

The colonial authorities drew three sharp conceptual lines to sort out the dense cultural diversities they confronted. They created a conceptual template of compartmentalised and rigid caste system and imposed it on often overlapping, hazy, and often contesting boundaries and rank orders of social divisions. The word "caste" used loosely as a synonym for jaati became a dominant category of differentiation that overrode and blurred several other societal divisions marked by descent, sectarian differences, linguistic and regional differences as well as interconnections within settled communities and between settled and nomadic groups, tribes, and forest-dwelling communities. Communities that had the same or similar occupational and craft specialisation, but displaying different customs and beliefs and claiming "different deferential status markers" were clubbed together revealing bureaucratic convenience or inefficiency. The fitting of the diverse jatis, wandering and itinerant groups and communities, tribes, and forest-dwellers into a caste system, by imposing the template of "fourfold varna hierarchy" of the *Dharma shastras*, the British rulers evolved a fairly effective way of sorting out cultural diversities and disparities. This bureaucratic exercise aroused widespread caste consciousness and social stirrings by associations that sprang up to represent and

push the cause of castes in the pursuit of social dignity and status. Numerous petitions were filed with the British government to register the claims for reclassification and nomenclatural changes that reflected an anxiety to seek official approval for the claims to superior social status. It is interesting to note that these stirrings indirectly confirmed the hierarchy as conceived by the Brahmins. The authorities ignored or sidelined other contesting versions of varna that were prevalent then. This is what I glean from Muzaffar Assadi's work even though I am not sure whether he would endorse my interpretation.

Apart from caste as the line of demarcation, sharp lines of religion were drawn across communities that rode roughshod over the interactive, pluri-religious ecosystem in which religious boundaries were hazy or in secular contexts, even unimportant. This attempt solidified religious identities and aroused "communalism" that ripped apart the syncretic and tolerant cushion of the Indic culture and ultimately gave birth to the two-nation theory with devastating effects.

The British rulers identified "tribes" as separate isolated communities of forest-dwellers that need to be protected from the predatory influences of the mainstream cultures. True, there were instances of commercial exploitation of these communities but at the same time these communities were influencing and were in turn influenced by cultural and political exchanges with the mainstream communities that had given them a sense of self-respect, agency, and autonomy that provided a framework of harmony. Even in the context of these tribes, the census officials faced conundrums of classification according to religion or caste. To resolve them, they used rules of thumb that stirred up social turbulence.

Apart from these three lines of classification, there were special segments of society that were marked out as "criminal castes and tribes." Some Muslim groups such as the Julahas and the Chhaparbands were cast as criminals and religious fanatics and accordingly marked out for surveillance and anticipatory

suppression. It is an open secret that the British rule was sustained by the army of Indian soldiers to fight against the local rulers. After 1857, what they called the Sepoy Mutiny, the British exercised caution by restricting recruitment to the army only to castes and communities that they identified as the “martial races.”

Muslims and Minoritisation

Assadi delineates the social consequences of the administrative demarcation along these three prominent lines over the social body of India in great detail. But I read his book as an attempt to trace the minoritisation of Muslims that began during the colonial regime. Being unable to reconcile themselves to their loss of power, the Muslim elite withdrew from public affairs and became inward-looking and resentful towards the new regime which, in any case, they regarded as *Dar-ul-Harb* (territory of war). This attitude handicapped the Muslims in comparison to the Hindus who seized whatever opportunities came their way for upward mobility, under the British rule, even if it be in the form of nominal and notional mobility legitimised by the census. Assadi points out that this Muslim attitude of passive resistance was self-defeating as they were late in accessing the limited set of opportunities that the introduction of education in English created for the subjects of the British Raj. Assadi also endorses the Saidian view by suggesting that the colonial government overlooked major

contributions to the advancement of knowledge and culture by the indigenes, especially the Muslims.

One virtue of this book is the sheer weight of information that Assadi has culled; the information offered here allows contrary interpretations. Assadi points out that there were caste divisions among the Muslims that paralleled the Hindu caste system; the Ashrafs, Sayyids, Sheikhs, and Pathans, who claimed foreign descent, asserted superiority over the local converts, and pushed numerous nomadic communities, service-providing people, and communities performing menial jobs to the margins by relegating them to the lower caste if not the untouchable status. Rules of endogamy, hypergamy, and discrimination that are associated with the Hindu castes remain quite prominent among the Muslims, although Islam rejects such discrimination in principle. Assadi mentions in passing that low-caste converts were even denied entry into the upper-caste mosques and access to burial grounds and treated unfairly. He also notes the phenomenon of Dalit and lower-caste Muslims adopting the upper-caste labels but apparently that nomenclatural emulation was not effective in attaining parity with the higher castes. This problem poses difficulties in identifying the Dalits among Muslims for inclusion in the categories of Scheduled Castes and Scheduled Tribes.

Even as Assadi recognises caste divisions among Muslims, he holds that

caste should be relevant only in politics. Assadi contends that caste differences should not matter in everyday interactions. He recounts numerous instances of the Muslim–Hindu cultural hybridisation apparently to douse polarising trends that are gaining momentum today. He extends his narrative to India after independence, to show how the politics of caste-based reservations is an extension of colonial governmentality into the present. He seems to hold the view that the reservation policy has not been effective in empowering Muslims, especially the Dalit converts because the entrenched beneficiaries see a threat to their privileges if the scope of reservations is extended.

I chose to review this book written in Kannada in English to flag its all-India significance. I was enthused by the book’s all-India conspectus and the massive documentary evidence on which Assadi relies. It adds value to the study of the politics of social change, by widening the scope for regional comparisons. But I get the strange feeling that Assadi is getting drowned in the ocean of evidence he has gathered. A comparative framework is needed to assess the social consequences of the colonial rule, especially the minoritisation of Muslims, which is the need of the hour.

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The Archaeology of 'Age' in Colonial India

RAHUL SARWATE

To excavate the various contours of the entangled nature of gender, sexuality, and the production of modern legal and political subjects in the diverse historical contexts has been a productive concern within the modern historical studies in recent times. One can quickly point to *Global Women, Colonial Ports: Prostitution in the Interwar Middle East* by Liat Kozma (2017), *Sex, Law, and Sovereignty in French Algeria, 1830–1930* by Judith Surkis (2019), and *Indian Sex Life: Sexuality and the Colonial Origins of Modern Social Thought* by Durba Mitra (2020) as examples of this excellent scholarship. These inquiries engage with the nature of colonial power as well as how it was implicated in the production of female sexuality in different spatial-intellectual contexts.

Although Ishita Pande's work *Sex, Law and the Politics of Age: Child Marriage in India, 1891–1937* shares many of the concerns with these recent historical studies, her study locates the sex/age complex as the pivot around which the discourse of modern Indian liberal subject was constructed. Pande considers the child as a site of sexual modernisation in late colonial India and probes into the use of childhood as a moral category in politics. "In what ways did the discourses of child protection give shape to the norms and forms of modern/colonial government, national sovereignty, community identity, and individual rights?" is the question she seeks to address through this work.

The various ways in which the Child Marriage Restraint Act (CMRA) of 1929 produced childhood as a moral and political category in colonial India is at the heart of this ground-breaking research.

Age as an Analytical Category

Through a close reading of the historical processes of production of the CMRA, the author shows that the colonial discourses

Sex, Law, and the Politics of Age: Child Marriage in India, 1891–1937 by Ishita Pande, Cambridge: Cambridge University Press, 2020; pp xvi + 322, price not indicated.

on sexual normativity and the sexual-ethical concerns of the Hindu ethos were implicated in the production of the (Hindu) national community. She argues that the normative understandings of categories like childhood, which were rendered through the uniform and universal idea of age, were at the heart of the imagination of the modern Indian nation in the colonial period. She demonstrates that as the Hindu reformist project vernacularised the secular/colonial legal discourses on age, it also enabled the construction of the Indian Muslims as backward and regressive. By showing how age was neither a natural nor a transparent category, the study seeks to correct the legal and gender histories of colonial India by historicising age as a category and thereby presenting a nuanced and complex understanding of the historical processes of community formation in colonial India.

The text is divided into three sections with two chapters each. The first section—Provincialising Childhood—shows how age has functioned as a naturalised category in the historiography of colonial India and how it limits our understanding of gender justice and human rights. The question that is central here is the following: Why did age remain so critical in the colonial imagination despite the ambiguous ways in which it was recorded in India? Pande answers this by showing that scientific and technological means came to define childhood through bodily measures and thereby rendered it a natural and stable category of analysis. The medico-legal determination of age—teeth, height, and weight, hair and breast development, the extent of ossification—made age a naturalised category. Childhood emerged

as a natural and moral category through the medical gaze, governmental and forensic technologies, and liberal law.

The second section—Queering Age Stratification—explores the ways in which anxieties about protecting the male child were significant in the making of the legal framework of the CMRA. It argues that the CMRA made the Hindu reform project compatible with liberal and secular values which were central to the imagination of the modern subject in India.

The author claims that the language of the universality of science was borrowed by the ideologues of Hindu science leading to the construction of Brahminical reform as a developmental and modernist common sense. This analysis brilliantly explicates the construction of and the centrality of age as a chronological and naturalised temporality in the construction of the Hindu liberal subject. However, being primarily limited to the discussions around the CMRA, it does not take into account the heterogeneous and contentious nature of the very category Hindu in colonial India.

The study shows the deep entanglements between Hindu reformism and Hindu nationalism. In particular, the discussion of Narayan Phadke's book, *Sex Problem in India* (1927), shows how both the Hindu religious and the Western scientific epistemes were invoked in the production of this Hindu liberal morality. It argues that this secularisation of the religious temporalities led to three intertwined things: (i) time itself became naturalised as progressive, (ii) it grounded the child in the uniform and universal category of the body, and (iii) it consolidated the claims of Hindu universality as the foundational basis for Indian nationality.

The final section—Consent Otherwise—demonstrates how this representation of Hindu reform as both secular and scientific was concomitant with the representation of Indian Muslims as backward, unhygienic, and addicted to child marriages. Besides showing how the passage of the CMRA was closely tied to the political marginalisation of Indian Muslims in the 1920s and 1930s, she also proposes that the Muslim opposition to

the CMRA, which has been read as an expression of communalism and religious orthodoxy—due primarily to the epistemic logic of age as a biological category that dominated the historiography—should rather be examined as “a contestation of liberal proceduralism and its political arithmetic of majorities and minorities.”

Her discussion of Jawaharlal Nehru’s critique of religious orthodoxy is the case in point here. Critiquing Nehru’s equation between the Hindu and the Muslim orthodoxies, Pande asks, “Why was the Muslim rejection of the CMRA, perceived, simultaneously as identical to the Hindu orthodox one, and as an especially dangerous one?” She argues that the CMRA enabled an alignment of the Vedic body with the secular legal body and categorised the nation as foundationally Hindu and paved the way for the exclusion of Muslims.

Though the study shows an awareness of the distinction between Nehru’s imaginations of India based on science and the equivalence between India and Hinduism in the Nehruvian vision, in effect, she argues for a considerable

overlap between the two. The Hindu reform project of the colonial period thus greatly intersects and even merges at times with the project of Hindu nationalism in Pande’s analytical frame.

Age, Consent, and the Law

The book reflects upon the principle of the option of puberty contained in Islamic law to question the liberal political category of age to interrogate its relationship to consent. She argues for the significance of the categories of Islamic law for India’s legal history and cultural heritage. Her discussion of Badal Aurat’s case, where the child bride was accused of bigamy, is particularly illustrative of her appeal to feminist and legal historians to pay closer attention to how Islamic law has historically been implicated in India’s legal history. By asking why the regulation of child marriages concerning the age of puberty instead of the chronological age is so readily legible to us, Pande contends that Aurat’s case can provide the illiberal basis for understanding the notion of consent which is based on the rejection of the epistemic contract on age.

In suggesting that age is a sexualised and intimate expression of uniform standard time, Pande’s book also demonstrates the need to carefully historicise the categories of age, sex, and gender in the Indian context. It shows how regulation of childhood and adulthood, through a range of legal, religious, scientific, and cultural discourses, were implicated in the very production of the modern, secular, and progressive subjectivities in India. In her critique of the presumed value neutrality of colonial liberal categories, she demonstrates how the heterogeneous temporalities of the nation were formed around the intersection of the secular body, Vedic science, sexual normativity, and colonial law.

The book gives us an uncharted history of the categories of age and consent. It further examines their translations and tribulations with social and legal structures of surveillance and control in modern India.

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An Indian Critique of Indian Nationalism

RAJSHREE CHANDRA

Partha Chatterjee, in the preface to the book, says that the manuscript of the book mysteriously and anonymously landed at his doorstep. He has no idea why he has been chosen to be the interlocutor and messenger of this book. He wonders whether he has been “unwittingly drawn into some nefarious plot” (p ix). However, on reading the manuscript in its entirety, [he becomes] convinced that, though it deals with highly controversial topics, it has enough serious and closely argued material to be both topical and thought-provoking for a wide readership today in India, and perhaps even elsewhere. (p viii)

The Truths and Lies of Nationalism: As Narrated by Charvak edited and with annotations by Partha Chatterjee, Delhi: Permanent Black, 2021; pp 358, ₹695 (paperback).

Even before one opens the book, one is besieged by myriad questions. Did the book cover say narrated by “Charvak”? As in, the same as *Carvaka*, the author of one of the *nastika* philosophical schools of Indic tradition/s? How could Carvaka, who could be close to 1,500 years old, be writing about Indian nationalism that was no older than 150 years? As one goes through the preface and reads Chatterjee’s apprehensions and his decisions and reasons for translating the book from a

“widely spoken North-Indian language” to English, more questions surface. Why was Chatterjee not disclosing the language of the original manuscript? And why had he chosen to use the spelling “Charvak” and not “Carvaka” as is commonly used to refer to this tradition? Who was this modern-day Charvak?

The Carvaka School

One knows that Carvaka (the reviewer shall continue to use this spelling when speaking about this tradition), unlike what is commonly believed, was not one person but could be any person belonging to and professing the Carvaka philosophical tradition. For those uninitiated in Indic philosophical traditions, there are two aspects of it that need a brief telling in order that we begin to understand the authorial enigma and the questions posed earlier. At the risk of over-simplification, one way to classify Indic philosophical tradition/s is in terms of two meta schools—the *astika* and the *nastika*.

Put simply, the astika tradition recognises, abides by, and upholds the authority of the Vedas, while the nastika tradition denies it. Carvaka, along with the *śramanic* traditions of Buddhism and Jainism, belongs to the nastika tradition. In the history of classical Indic philosophy, the Carvaka philosophy (a continuation of the *Lokayata* materialism of the pre-Common Era), since the eighth century CE, became a prominent, if not the only, representative of the materialist system. The Carvaka school rejected all metaphysical, supernatural, and religious claims— notions of karma, moksha (salvation), rebirth, reincarnation, afterworld, for instance—on the grounds that they failed the test of valid knowledge, that is, evidence (*pramana*) and sense perception (*anubhava*). Any epistemological claim that could not be verified through direct experience was rejected. One could say that the Carvakas were Indian sceptics who “developed a radical scepticism that questioned the nature of inference and criticised all attempts to establish metaphysical principles and supernatural doctrines” (Schroeder 2012: 56).

The subject of the book is Indian nationalism and its truths and lies. Nationalism becomes that epistemological and doctrinal claim that requires further interrogation and verification. Who better to do that than a modern-day Carvaka, deliberately spelt as Charvak in the book, shorn of its ancient markers (the diacritical marks for instance) and donning a modern-day phonetic avatar? And what better way to do it than by subjecting the truth claim of nationalism to rational scrutiny?

Interrogating the Indian Nation

In claiming to be Charvak, the author sets out his/her/their (henceforth a gender-neutral “c”) ideological position clearly. c is a materialist, an atheist, and someone who rejects the authority of the Vedic philosophy as also the modern practice of Hinduism in all its dimensions—political, religious, cultural, and historical. c says, for instance in Chapters 1 and 2, that all nations are modern and all borders are accidental. The Mauryas, the Guptas, the Mughals, the Marathas, and Vijayanagara were all empires, not nations. The idea of a nation is undergirded

by the idea of people’s sovereignty which, c asserts, is a modern idea that emerged in the late 18th century in western Europe and America (p 7) and in India much later. Therefore, if we are to claim this land called India as an “ancient nation,” we will encounter problems because the modern markers of nationhood—commonality of geography, race, culture, descent, history—all remained fluid and fluctuating enough to not correspond to the nation called India.

c says that the only reliable marker of “India as a nation” is geographical. That is how we claim Sarnath (that spoke and wrote in a language and script that we no longer identify with) as being part of the territorial region we call India (p 10). And that is how we do not claim the 4,000-year-old Mohenjo-daro (as a surviving relic of the Indus Valley civilisation) as part of India because it lies in the geographical territory of Pakistan. And that is how, despite overwhelming evidence of Vedic Aryans as immigrants, we regard their descendants as Indians because it corresponds with the modern geography of the Indian nation state.

All nations are not just modern, but c goes on to say that they are accidental too. Giving many examples, c gives the reader a sense of “why India’s sacred and inviolable borders, when tallied against the actual history of how those borders came to be defined, is so dubious” (p 38). The McMahon Line in the east, the Aksai Chin border on China’s west, the borders of north-eastern states; the Radcliffe Line dividing Punjab and Bengal; the plebiscite issues in Sylhet, North-West Frontier Provinces, and Chhit Mahals (mostly in the districts of Rangpur and Cooch Behar)¹ that distributed regions to two different nations; the amalgamation of islands of Lakshadweep and Andaman, and the assimilation of the French and Portuguese territories—all these examples demonstrate “that the boundaries of the Indian nation state are neither natural gifts from the gods nor borders that Indians have themselves drawn” (p 65). That borders are accidental is the second truth of nationalism that c enunciates.

Another truth, the flip side of which is a “lie” as revealed by c, is that India is

not a Hindu Rashtra. c argues against Savarkar’s disqualification of Muslims and Christians as loyal, patriotic, authentic citizens of India on the grounds that India is not their *punyabhu* or holy land. Challenging Savarkar’s criteria, c demonstrates cultural, linguistic, and racial affinity between the members of different religious groups (for instance, between a Malayali-speaking Hindu and a Malayali-speaking Muslim) and divergences between members belonging to the same religious groupings but coming from two different regions (for instance, between a Malayali Hindu and a Kashmiri Hindu); or divergent food practices of Dalit Hindus and Savarna Hindus; or divergences between Vaishnava faith and the Shakta practice of animal sacrifice (p 116). The point simply being that religion is not a necessary marker of commonality or divergence.

Contesting the “holy land criterion,” c asks:

millions of Muslims all over South Asia consider the shrines at Ajmer Sharif or Nizamuddin in Delhi as among the holiest places of pilgrimage ... Do not Indian Catholics regard the relics of St Francis Xavier preserved in Goa as supremely holy? (p 116)

In ignoring these facts, c writes, Savarkar smuggles through the back door what Golwalkar admits through the front door—religion as a criterion of citizenship. Religion even today continues to sustain the myth of the Hindu Rashtra. “[A] sustained campaign through schools, textbooks, news magazines, and more recently social media,” c argues, spreads “the ideology of Hindu nationalism by circulating its own version of Indian history and

EPW Index

An author-title index for *EPW* has been prepared for the years from 1968 to 2012. The PDFs of the Index have been uploaded, year-wise, on the *EPW* website. Visitors can download the Index for all the years from the site. (The Index for a few years is yet to be prepared and will be uploaded when ready.)

EPW would like to acknowledge the help of the staff of the library of the Indira Gandhi Institute for Development Research, Mumbai, in preparing the index under a project supported by the RD Tata Trust.

culture” (pp 126–27)—a campaign that systematically breeds prejudice and perpetuates violence against Muslims.

For c, there is a conflict that lies at the heart of India’s democracy—a conflict that has not allowed Indian democracy to become either liberal or pluralist. “The conflict is between,” c says, “the individual freedom of conscience and the collective freedom of a religious community to maintain its identity” (p 166). This conflict manifests itself in several ways—in the expectation that proselytising religions will not convert a Hindu; that individuals, in exercise of the freedom of their conscience, will not convert to another religion; in the aspiration for a uniform civil code; in protests by the minority community in the Shah Bano case (1985–86), and of the majority community in the Sabarimala women’s temple-entry case (2018–19); or in All India Muslim Personal Law Board’s protest against the Supreme Court ruling in the “personal law” matter of triple talaq; or in the Supreme Court verdict in the Ayodhya dispute (where c argues,

“[s]ecular democracy lost its biggest battle in India” [p 178]).

Conclusions

This book is an attempt at deconstructing the ideology and practice of the Indian nationalism. But what makes this book clever is that it derives its methodological and rational bases in the Carvaka Indic tradition. Scepticism, rationalist scrutiny, materialist analyses are commonly considered as the preserve of Western analytical traditions. This makes their application, and indeed any kind of critique and questioning, frequently open to charges of being culturally alien and prejudiced. In giving the Carvaka tradition—of scepticism, questioning, criticism, rational inquiry—a modern life, Chatterjee (no prizes for guessing) not only offers an “internal critique” of Indian nationalism but also, and very importantly, revives a tradition and a methodology that can question matters of faith, religion, belief, and reverence and that can proudly claim to be “Indian.” In the true Carvaka tradition of scepticism,

a method that focused on discovering answers by asking questions, the modern-day Charvak subjects the phantasmagoria of nationalism to scrutiny and interrogation. Does one know who this Charvak is? What one does know is that Charvak is a heuristic device—a move that reveals both the author and the “self-framing” device as one reads along. In step with the Carvaka tradition, this book leaves it to the readers and their reasoned scrutiny to arrive at their own answers to the questions posed in this book.

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NOTE

- 1 This means scattered villages—two or more Indian villages surrounded by Bangladeshi territory and vice versa (p 5).

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Do Machine Learning Techniques Provide Better Macroeconomic Forecasts?

SABYASACHI KAR, AMAANI BASHIR, MAYANK JAIN

Machine learning techniques are now very common in many spheres, and there is a growing popularity of these approaches in macroeconomic forecasting as well. Are these techniques really useful in the prediction of macroeconomic outcomes? Are they superior in performance compared to their traditional counterparts? We carry out a meta-analysis of the existing literature in order to answer these questions. Our analysis suggests that the answers to most of these questions are nuanced and conditional on a number of factors identified in the study.

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Timely forecasts of key macroeconomic indicators, such as the gross domestic product (GDP) growth and inflation, are important for policymakers and market participants to gauge the health of the economy, form future expectations, and calibrate their actions. A central bank's decision on whether to increase or decrease the monetary policy rate, a government's expectations about the tax revenue it may obtain over the coming year, and decisions regarding investments—all require forming expectations about the inflation or GDP growth in a country that rests on a foundation of good forecasts.

In recent times, the use of machine learning (to be used interchangeably with the term ML in some places in this article) techniques is gaining popularity in various spheres.¹ A limited but growing literature is also emerging that uses these new approaches for macroeconomic forecasts. While most of the research in this field is conducted in the United States (US) and other developed countries' central banks, work has been undertaken recently in developing countries as well. However, a broad-based understanding about these approaches is yet to emerge. In this article, we attempt to contribute to a better understanding of these issues by undertaking a critical review of the relevant literature.

Machine learning is the “study of computer algorithms that improve automatically through experience” (Mitchell 1997). Statistical techniques for predicting a target variable, such as GDP growth or inflation, fall within the domain of “supervised learning.” This domain of statistics is primarily concerned with relating observations of a set of inputs or predictor variables represented

by X , to a supervising output/response/target variable Y , through a function f —with some associated error ε (James et al 2013):

$$Y = f(X) + \varepsilon$$

For instance, if the past values of GDP or inflation (X) predict their future values (Y) reasonably well and are related through a linear function f , then using the same function, we can predict Y as more data on X become available. As Jung et al (2018) note, machine learning methods do not make assumptions about the functional form of f . Macroeconomic predictions using such methods are thus dependent on first estimating the shape or the “fit” of the function f , that is, how does it relate X and Y (on “training” or in-sample data), and checking whether this function does a good job of relating X and Y in the presence of previously unseen data (“test” or out-of-sample data).

In this article, we investigate the existing literature in macroeconomic forecasting on the advantages of machine learning approaches over traditional statistical techniques. We conduct a meta-analysis of the literature on forecasting the GDP growth and inflation using ML techniques. The aim is to understand whether ML techniques are better than their “standard” or non-ML counterparts in providing more accurate forecasts.

The structure of the article is as follows. The article begins with an introductory review of the ML techniques most commonly used in the existing literature. It then describes the data set constructed for our meta-analysis. After a discussion of the empirical results of the analysis, it concludes.

Machine Learning Techniques

ML methods most commonly used in the literature on forecasting growth and inflation can be broadly divided into three types: regularisation, tree-based, and neural networks. We introduce and describe each of these types below.

Regularisation: Parameter estimation used in most standard linear prediction methods follows the ordinary least

squares (OLS) procedure. Take a standard linear regression as an example:

$$y_i = \beta_0 + \sum_{j=1}^p \beta_j x_{ij}$$

Estimating β using OLS requires minimising the sum of squared residuals (henceforth RSS):

$$RSS = \sum_{i=1}^n (y_i - \beta_0 - \sum_{j=1}^p \beta_j x_{ij})^2$$

This estimation works well in many situations. However, if the number of predictors is close to, or greater than, the number of observations, then estimation via OLS can lead to overfitting wherein the estimated parameters have low bias but high variance. This means that they might fit the relationship between the predictors and the response variable closely in the available sample (low bias) but are sensitive and prone to vary with the introduction of new observations—they will perform well in-sample but not out-of-sample (high variance), which is not good for a forecasting model.

However, with some modifications to the OLS procedure, some bias in parameter estimation can be introduced in order to reduce their variance, thereby improving their predictive performance. These modifications are provided by “regularisation” or “shrinking” techniques, such as Ridge regression, least absolute shrinkage and selection operator (LASSO), and elastic net.

Ridge regression: Ridge regression introduces a penalty in the estimation of parameters β_j . This penalty is a simple addition to the OLS estimation procedure seen earlier:

$$\sum_{i=1}^n (y_i - \beta_0 - \sum_{j=1}^p \beta_j x_{ij})^2 + \lambda \sum_{j=1}^p \beta_j^2 = RSS + \lambda \sum_{j=1}^p \beta_j^2$$

The penalty $\lambda \sum_{j=1}^p \beta_j^2$, known as “shrinkage penalty,” is small when $\beta_1, \beta_2, \dots, \beta_p$ are close to zero. Therefore, minimising the RSS subject to the constraint imposed by the shrinkage penalty involves “shrinking” the coefficients towards zero. The tuning parameter (or “hyperparameter”) λ determines the relative importance of the penalty term. As is evident from the equation, if $\lambda = 0$, this term has no effect, and coefficients are estimated using the

standard OLS procedure. As λ tends towards infinity, the effect of the penalty term grows, and coefficient estimates β_j shrink towards zero. A different set of coefficient estimates are produced for each value of λ . Therefore, it is important to carefully select a value for the tuning parameter. This can be done using cross-validation where ridge regressions with varying shrinkage penalty values can be modelled to see where the bias-variance trade-off is minimised, leading to the lowest mean squared error (MSE). Broadly, cross-validation can be conducted by dividing the available data into k subsamples, parameterising the given model using $k - 1$ subsamples and testing its performance on the remaining subsample. This process is repeated until all subsamples have been used as the “test” sample. The MSE from different iterations of the model can be averaged to get an overall sense of the test performance of the model or gauge which value of the tuning parameter provides the lowest MSE.²

Least absolute shrinkage and selection operator:

While ridge regressions regularise parameter estimates with high variance in order to improve their predictive ability, in data sets where the number of potential predictors is large, challenges still remain in interpreting models. For example, many predictors will have negligible coefficients, that is, they will not add value in terms of predictive content. In such situations, it can be difficult to parse which predictors are the most useful. The LASSO technique, much like ridge regression, shrinks the parameters towards zero to reduce their variance. However, it lets some parameters shrink exactly to zero when the tuning parameter λ is large enough so that those variables drop out of the model. This creates more sparse and more interpretable models with only those variables included that are relevant for predicting the response variable. This is achieved by changing the shrinkage penalty from $\lambda \sum_{j=1}^p \beta_j^2$ to $\lambda \sum_{j=1}^p |\beta_j|$:

$$\sum_{i=1}^n (y_i - \beta_0 - \sum_{j=1}^p \beta_j x_{ij})^2 + \lambda \sum_{j=1}^p |\beta_j| = RSS + \lambda \sum_{j=1}^p |\beta_j|$$

Like ridge regression, minimising the equation entails shrinking the parameter estimates towards zero. Due to the nature of the constraint set by the penalty term in LASSO, some variables are allowed to shrink to zero, given a large enough value of the tuning parameter. As before, cross-validation should be used to determine the optimum value of the tuning hyperparameter to balance the bias-variance trade-off.

Elastic net: A combination of LASSO and ridge regressions is the elastic net, which allow for a model to not be too dependent on the selection made by LASSO, yet allow for model interpretability by limiting the number of variables from a large predictor space. This is done by minimising the RSS subject to both ridge and LASSO penalties as shown below.

$$\widehat{\beta}_{\text{elastic net}} = \underset{\beta}{\text{argmin}} \left\{ \underbrace{\sum_{i=1}^N \left(y_i - \beta_0 - \sum_{p=1}^p \beta_p X_{p,i} \right)^2}_{\text{RSS}_{\text{OLS}}} + \lambda \underbrace{\sum_{p=1}^p \left(\alpha |\beta_p| + (1 - \alpha) \beta_p^2 \right)}_{\text{Elastic net penalty}} \right\}$$

LASSO penalty Ridge penalty

Source: Mahajan and Srinivasan (2020).

Here, we have two hyperparameters λ and α . λ , as before, ranges from 0 to infinity and increases the degree to which parameter estimates are shrunk. α , the new hyperparameter, determines the relative importance of the LASSO and ridge penalties. It ranges from 0 to 1. If $\alpha = 0$, then the LASSO penalty drops out and we have a ridge regression. If $\alpha = 1$, the ridge penalty drops out and we have a LASSO formulation. This combination allows for relatively stable coefficients (with low variance) in the presence of “fat” data (that is, with many possible predictors) and multicollinearity (Mahajan and Srinivasan 2020).

Tree-based methods: Tree-based methods involve partitioning the available predictor-space into a number of regions based on pre-specified rules and making a prediction for the response variable in each region. Since this partitioning can be graphically represented in a

“decision-tree,” such methods are called “tree-based” methods or classification and regression trees (CART). Popular examples include Random Forests and its “bagged” or “boosted” implementations, which involve “growing” multiple trees. In order to understand them, however, we first need to understand how a single tree is grown.

First, the predictor-space composed of predictors X_1, X_2, \dots, X_j is divided into distinct, non-overlapping regions R_1, R_2, \dots, R_j . This is commonly done via recursive binary splitting. This entails taking all predictor observations as part of a single region at first. This predictor-space is then split on the basis of the predictor and a “cutpoint” that minimises the RSS across the two resulting regions. In other words, this partitioning rule searches across all predictors R_j to find an appropriate cutpoint s , such that we have two regions:

$$R_1(j, s) = \{X|X_j < s\} \text{ and } R_2(j, s) = \{X|X_j \geq s\}$$

where all values of X_j belonging to R_1 are less than s , and the rest belong to R_2 . The goal behind this is to find the predictor X_j and cut-point s that minimise the RSS across all regions:

$$\min (\Sigma (y_i - \hat{y}_{R_1})^2 + \Sigma (y_i - \hat{y}_{R_2})^2)$$

Here, \hat{y}_{R_1} is the mean of the response variable for the training observations in region R_1 and \hat{y}_{R_2} is the mean of the response variable for observations in region R_2 .

This process is then repeated in the two regions R_1 and R_2 with the aim to find the predictor and cut-point that would minimise the overall RSS once more, thereby creating a third region. Subsequent regions are created in the same manner. This binary splitting continues until a stop-criterion is reached, that is, a maximum number of nodes or splits or a minimum number of observations in each region. Once the splitting concludes and we have regions R_1, R_2, \dots, R_j , we predict the value of the response variable in each region to be its mean,³ and a tree is thus grown.

With recursive binary splitting, it is easy to have a very high number of regions. Theoretically, it is possible to have a region for each training observation of

the predictors, resulting in a perfectly fitted tree. However, overfitting leads to high variance and thereby poor out-of-sample predictions. The solution is “pruning” of trees. Pruning techniques complemented by appropriate cross-validation allow the user to select subtrees that balance in-sample and out-of-sample prediction accuracy.⁴

Tree-based methods have many advantages. They are useful in modelling interactions between different predictors in a better manner than standard techniques, as the latter tend to create more regressors relative to data points (Mahajan and Srinivasan 2020). The relative importance of different predictors is also more intuitively understood in a decision-tree format. Nonetheless, while single trees can be intuitive to understand, their predictive performance can be poor. The solution to this problem is a group of models that grow multiple trees and are known as “bagging,” “random forests,” and “boosting,” respectively.

Growing multiple trees and aggregating the predictions that they provide improve upon the performance of the tree-based methods significantly. If all the predictors are available as candidates for splitting and the average prediction of multiple trees grown using bootstrapped samples is considered, it is called “bagging.”⁵ Bagging reduces the variance that accompanies a single tree. However, if the predictors are highly correlated, the reduction in variance will not be large since most trees will be grown in a similar order. Hence, growing multiple trees with different variables is useful in order to reduce prediction variance further. This objective is achieved by the group of models called “random forests.”

Random forests “decorrelate” the trees by modifying the bagging methodology. At each split in a tree, the learning algorithm is not allowed to consider all the available predictors. Using bootstrapping principles, multiple trees are then grown using multiple draws from the training sample. This is useful as it leads to different trees created out of different variables, which lowers the out-of-sample variance of the model.⁶

Random forests or bagging techniques develop multiple trees independently of

each other and then average them. A third technique called “boosting” is slightly different from these two approaches as it grows trees sequentially. The advantage of this sequential process is that the residuals of the past trees are used to provide information that is used to grow newer trees. This allows the algorithm to learn “slowly” and improve the fit of each tree where its residuals are large. This sequential growing of trees lowers the forecasting error.

While techniques like random forests, bagging, and boosting can improve forecast accuracy over the predictions of single trees, it can be difficult to interpret the resulting models. For example, it is much easier to visually delineate important splits (variables) in a single tree, but an average of predictions over multiple trees cannot be as clearly visualised. Hence, tree-based methods that grow multiple trees improve predictions at the expense of interpretability. But, one can use prediction measures such as RSS and Gini indices to obtain summaries of the importance of each predictor, even if the relationship is not visually clear.

Artificial neural networks: Artificial neural networks, also known simply as neural networks, are a set of techniques that mimic biological decision-making processes using a set of inputs, analysing their relative importance, and using that information to determine an output. The earliest models of such nodal learning were known as “perceptrons” (Rosenblatt 1958) that used inputs ($X_1, X_2, X_3 \dots X_j$) and their weights ($w_1, w_2, w_3 \dots w_j$) to determine the output as the weighted sums of the inputs. Neural networks however deal with more complex modelling objectives, and these are achieved by building sequential layers of multiple perceptrons, rather than a single one. These intricate network of perceptrons can be categorised into three parts, that is, an input layer, an output layer, and one or more hidden layers in between the input and output layers, each consisting of multiple nodes or “neurons.”

There are two more ways in which neural networks improve over simple perceptrons. The first is to introduce the possibility of non-linearity in the impact

Figure 1: Input to Hidden Layers

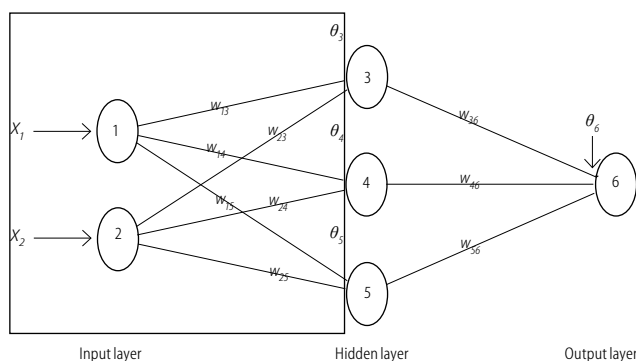
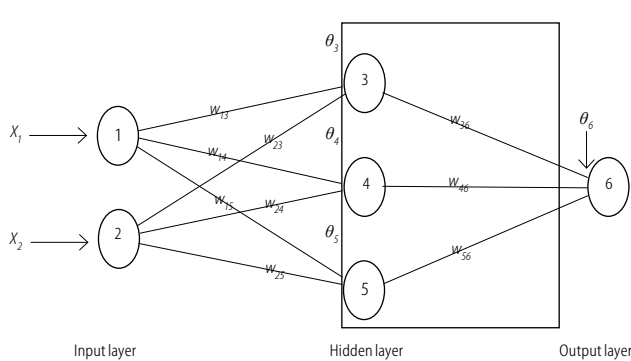


Figure 2: Hidden Layers to Output



that weighted inputs have on the output. This works through the “activation function” that imposes a non-linear transformation on the weighted inputs before they provide information to the next neuron in the chain. Some of the commonly used non-linear functions used include sigmoid, tanh, and Rectified Linear Unit (ReLU) functions. The second way that a neural network improves its performance is by a process known as “backward propagation.” This is a feedback mechanism from the output error in any particular iteration (difference between the estimated output in that iteration and its actual value) back to the inputs, enabling an adjustment in their weights in the next iteration so that more and more accurate predictions become possible.

Figure 1 is a schematic representation of a single iteration of the process. There is an input layer that has two neurons (independent variables), a single hidden layer with three neurons and an output layer with a single neuron (target or dependent variable). The box highlights the first step in the process of running the model. The importance of each of these two input neurons (X_1 , X_2) to the next neurons in the hidden layer (here 3, 4, or 5) is determined by their weights (w_{13} , w_{14} , w_{15}) and (w_{23} , w_{24} , w_{25}), respectively. Conversely, the information that can be received by any particular neuron in the hidden layer is a weighted summation of X_1 and X_2 . Apart from the weighted inputs, another term that is added in this transformation is a “bias,” which is a constant and similar in concept and function to the intercept term in a linear regression. These are represented by (θ_3 , θ_4 , θ_5) for neurons 3,

4, and 5, respectively. Finally, the chosen non-linear activation function is imposed on the weighted inputs (plus bias) before the results are transferred to the next neuron.

Next, we look at Figure 2. The box now highlights the next step in running the model. The transformations described earlier create derived variables for node 3, 4, and 5, respectively. The process in the first step is now repeated using these derived variables as inputs. This involves first assigning weights and biases to these inputs and then imposing the activation function on this transformation. The result is the output for the model for this round of iteration.⁸

Next, as described earlier, a process of “backward propagation” introduces circularity to the process in order to let the network learn which connections to emphasise and thus bring the final output closer to a desired value. This process uses a technique called “gradient descent” to efficiently find the direction and magnitude of change needed in the weights and biases used in all the steps of the second and subsequent iterations.⁹ This repeated iteration helps the model learn more and more about the data and provides an accurate prediction of the output or target variable.

While neural networks were initially designed to analyse cross-sectional data, they are increasingly being used in time series analysis by modifying the model to accommodate time dimensions as well. Deep neural networks (DNNs) build on this concept by having an increased number of hidden layers, leading to more complex transformations and functional relationships. However, DNNs alone cannot deal with the time series data adequately

because the data are revealed to each node in the hidden layer simultaneously, as opposed to sequentially, to account for temporal dimensions. This is why using only DNNs in this iteration may not necessarily help to discern complex relationships that are shaped over time. Recurrent neural networks (RNNs), on the contrary, allow the incorporation of information sequentially, which is suitable for time series analysis. The structure of RNNs is the same as regular neural networks, with layers of neurons feeding-forward information. The basic difference is that RNNs create multiple “copies” of the same network, with each copy corresponding to each observation sequentially. The output from the first copy informs how the second one will determine its output, which in turn determines the third, the fourth, and so on. Needless to say, a drawback of such complicated versions of neural networks is that the computational power required to run them goes up substantially.

A Meta-analysis of the Literature

In this section, we carry out a meta-analysis of the literature that uses machine learning for macroeconomic forecasts. Our goal is to understand whether ML techniques tend to perform better than their non-ML counterparts in forecasting the GDP growth and inflation. Further, we attempt to find out the conditions under which they perform better: longer or shorter forecast horizons, in emerging or advanced economies, and so on.

Data: In order to conduct this meta-analysis, we assemble a data set of papers that utilises ML techniques in their forecasts of growth and inflation. Another

criterion for the selection of papers was that their forecast period was more recent. While this criterion is inherently arbitrary, the aim is to ensure that our data are relevant since the global economy and inflation rules by central banks changed significantly close to and after 2000.¹⁰

In order to compile our data set, we traced the thread of citations that met our criteria, beginning with the most recently available papers. In other words, a 2021 paper meeting our criteria is included, its citations are searched to find more relevant papers, and this process is repeated for each of the papers identified through this process. Through this search process, we have been able to identify 16 papers that use at least one type of ML technique in forecasting either the GDP growth or inflation.¹¹ Each of these papers also have 1-quarter and one-year-ahead forecasts that belong to the post-2000 period. Among the 16 papers, there is a relatively even split within four groupings: GDP growth in advanced economies, inflation in advanced economies, GDP growth in emerging economies, and inflation in emerging economies.

Within advanced economies, Jahn (2018), Biau and D'elia (2010), Jung et al (2018), and Richardson et al (2019) look at growth forecasting in the European Union countries, Japan, the us, and New Zealand; Jung et al is the only paper in the entire set that looks at both advanced and emerging economies (that is, Mexico, Philippines, and Vietnam). The papers in this set use univariate, multivariate, factor-based, regularisation, tree-based, and neural network methods on their samples. While Jahn (2018) uses regular neural networks, Jung et al (2018) use RNNs.

Teräsvirta et al (2005), Medeiros et al (2019), Marcellino (2007), Nakamura (2005), and Baybuza et al (2018) look at inflation forecasting in G7 countries and Russia. Moreover, Nakamura (2005), Teräsvirta et al (2005), Medeiros et al (2019), and Marcellino (2007) all look at the us over different time periods using different methods. The papers in this subset use univariate, multivariate, regularisation, tree-based, and neural network methods. Teräsvirta et al (2005) use neural

networks, whereas Marcellino (2007) looks at autoregressive neural networks.

Within emerging economies, a range of countries are covered. For growth, Sanyal and Roy (2014) and Roy et al (2016) look at India, whereas Tiffin (2016), Jung et al (2018), and Chuku et al (2017) look at Lebanon, Mexico, Philippines, Vietnam, South Africa, Nigeria, and Kenya. The papers in this subset use univariate, multivariate, factor-based, regularisation, and neural network methods.

With respect to inflation in emerging economies, the subset contains forecasts for Chile (Leal et al 2020), India, South Africa, China (Mahajan and Srinivasan 2019), and Brazil (Garcia et al 2018). The papers in this subset use regularisation, univariate, factor-based, tree-based, and neural network methods. While Jung et al (2018) uses recurrent neural networks, Sanyal and Roy (2014) and Roy et al (2016) use regular neural networks. For inflation, within both advanced and emerging economy subsets, adaptive versions of regularisation techniques have also been considered (Leal et al 2020; Medeiros et al 2019; Garcia et al 2018).

Several papers, such as Richardson et al (2019), Sanyal and Roy (2014), Jung et al (2018), Tiffin (2016), and Teräsvirta et al (2005) use combination forecasts, which have not been included in the meta-analysis since they cannot be strictly categorised under the six classes of ML and non-ML techniques identified in the literature. Appendix Table A1 (p 41) summarises the salient characteristics of the papers included in our analysis.

The papers selected for our study provide us with a sample of 313 forecasts. The number of observations or forecasts for ML (155) and non-ML (158) techniques are almost the same, with the latter being marginally higher. The standard measure used to gauge the degree of accuracy of a forecast is the root mean squared error (RMSE). We normalise the RMSEs of our collected forecasts by subtracting from them their respective country-means and call them “adjusted RMSEs,” as explained in more detail earlier. While adjusted RMSEs belonging to ML techniques have a smaller mean, non-ML techniques have a smaller standard deviation, implying a smaller dispersion in their forecasts.

There are more observations for shorter horizon (1-quarter-ahead) forecasts (165) than for longer ones (4-quarters-ahead) (148), with the shorter horizon forecasts displaying smaller adjusted RMSEs on average. Shorter horizon forecasts also have a smaller dispersion, indicating lower volatility in their predictions. The number of advanced and emerging economies in our data set are almost equal, with the former group showing smaller adjusted RMSEs on average. Emerging economies, however, display a smaller dispersion in their forecast errors.

There are 93 more observations available for inflation relative to growth in the collected data set. Growth forecasts appear more accurate, with a smaller average adjusted RMSE. Inflation forecasts have a smaller dispersion, however, indicating less volatility in their predictions. Within growth forecasts, there are eight more observations belonging to ML techniques relative to non-ML techniques. While ML techniques display a higher average accuracy due to a smaller average, non-ML techniques show lower volatility through a smaller dispersion. Within inflation forecasts, there are 11 more observations for non-ML techniques relative to ML techniques. Here too, ML techniques have a smaller average but higher dispersion.

For the purposes of the meta-analysis, we also club each ML and non-ML technique used in the collected forecasts into six broader classes. Non-ML techniques can be clubbed under univariate, multivariate and factor-based methods, and ML techniques can be clubbed under regularisation methods, tree-based methods, and neural networks. Among these six classes of methods that encompass the ML and non-ML techniques used in the collected forecasts, the highest number of observations belong to univariate techniques. This is expected since autoregressive techniques are commonly used as benchmarks in macroeconomic forecasts. The lowest number of observations correspond to a single forecast that uses the support vector machine (svm) method, followed by factor-based methods. While the former method is an ML technique, it cannot be strictly categorised under any of the three classes of ML

techniques identified. There are also an insufficient number of forecasts in the data set that use this method. Thus, while it is included in the meta-analysis as an ML technique wherever ML techniques as a group are compared with their non-ML counterparts, it is excluded in analyses regarding the classes of methods.

Excluding the single SVM forecast therefore, the lowest number of observations correspond to factor-based methods. Among the six classes, the lowest average adjusted RMSEs belongs to neural networks followed by factor-based methods. Neural networks, however, also display the highest volatility in their predictions evident by the group's standard deviation. Factor-based methods, on the contrary, display the lowest volatility among the six classes. Initial results thus suggest that a growth or inflation forecaster would do well to use factor-based methods due to their low volatility of results and low average forecast error.

Methodology: From the papers included, we extract the RMSE of their respective forecasts by each forecasting method using:

$$RMSE = \sqrt{\frac{\sum_{i=1}^n (\text{Predicted}_i - \text{Actual}_i)^2}{n}}$$

The RMSE is a commonly used measure to indicate the precision of a forecast—the lower the difference between the predicted and actual observation, the better the forecast. To keep our analysis focused, we only extracted RMSEs for the 1-quarter-ahead (1Q-ahead) and 4-quarters-ahead (4Q-ahead) forecast horizons. These represent short- and long-term predictions of growth and inflation. Once extracted, the RMSEs are organised by forecast method and country. We also specify whether each country is an “advanced” or an “emerging” economy.

It may be noted here that the RMSEs for different countries may have country fixed effects as a strong underlying factor. Before making comparisons between the RMSEs produced by ML and non-ML technique-based forecasts, these effects need to be controlled. To do this, the mean RMSE of each country (across all studies) is subtracted from the RMSE of each forecast based on that country.

The recalculated RMSEs are termed as “adjusted RMSEs.”

On the adjusted RMSEs, we conduct tests of statistical significance in order to gauge the relative performance of ML and non-ML techniques. It may be noted that while our data set is fairly exhaustive in terms of including relevant papers, it is still a small sample (313 forecasts) because the literature that uses ML techniques in forecasting growth and inflation is still in nascent stages. As is well known, a small sample from an unknowable population violates the assumptions that go into the more popularly used T-test (Freund 2000). Non-parametric tests like the Mann-Whitney, on the contrary, are useful in this scenario because they make few, if any, assumptions about the distribution of the population and are relatively more suitable for smaller samples. We find that a non-parametric approach is used in other meta-reviews of ML techniques as well, for instance, in the context of financial market forecasting (Ryll and Seidens 2019). For these reasons, we use the Mann-Whitney U-test as the first step in determining statistical significance.

The U-test provides us a first layer of inference with respect to statistical significance. However, being a two-tailed test, it only tell us whether the ML and the non-ML forecasts have statistically significantly different performance levels or not. This does not tell us clearly whether the ML forecasts are better than the non-ML ones. We get some indication on which of these two has a better performance from the “p-order,” which is the probability, using random draws that the average (adjusted) RMSE of the first group in our sample (non-ML forecasts) is greater than that of the second (ML forecasts). Next, for more robustness, we complement the U-test with the T-test.

We conduct a total of 82 tests. However, only those results that have a significant p-value for both the U-test and the T-test are considered significant or conclusive.

Results: The first set of statistical tests described earlier is conducted on the “superset” or the entire sample. The superset contains the adjusted RMSEs

for both growth and inflation, for both advanced and emerging economies, and both 1-quarter and 4-quarter-ahead horizons. Subsequently, tests are conducted separately on growth and inflation, and within those two, separately for types of countries and for forecast horizons. The results highlighted in dark grey have statistically significant U- and T-tests.

Overall, ML-based forecasts have superior performance for the sample for growth forecasts as a whole as well as the sample for longer-run growth forecasts (with a horizon 4-quarters-ahead) and the sample for growth forecasts in emerging economies. Additionally, the sample for growth forecasts in advanced economies at the 4-quarter-ahead horizon also shows superior ML performance.

While the results for the superset are not conclusive, they do indicate better performance by ML techniques since the p-order implies a 55% chance that a random draw from the entire sample would yield higher (adjusted) RMSEs for non-ML methods than for ML methods. The T-test also shows that the average non-ML adjusted RMSE is greater than its ML counterpart. The relatively better performance of ML techniques in forecasting growth appears to be driving the result for the full sample, including growth and inflation.

Next, we dive deeper in order to gauge the performance of different types of ML techniques. In order to do this, we compare each of the three classes of ML techniques (regularisation methods, tree-based methods, and neural networks) against each class of non-ML techniques (univariate, multivariate, and factor-based methods). The comparison of these nine pairs provides detailed results about their relative performance. The U-tests and T-tests were conducted first on these samples. The only significant result here is that neural network-based

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forecasts have done better than multivariate methods.

We finally divide these nine samples (each having one class of ML and one class of non-ML-based forecasts, respectively) further in three alternative ways. The first sample separates those having growth forecasts from those with inflation forecasts. The second partition separates developing from developed countries. The third partition separates shorter horizon forecasts from those with longer horizon. We repeat the statistical tests for these new samples. For brevity, only the significant results from these tests are shown in Table 1.

Table 1: Significance Tests (Pairwise)—Significant Results by Indicator, Country-type, and Forecast Horizon

Pair	Condition	# of Observations		Mann-Whitney U-test	Students T-test			
		Non-ML	ML	p-value	p-order (non-ML > ML)	p value (H1≠0)	p value (H1<0)	p value (H1>0)
Regularisation by univariate methods	Growth	23	18	0.0554**	0.676	0.0314**	0.9843	0.0157***
Regularisation by multivariate methods	EM	19	33	0.0795*	0.352	.032**	0.0161***	0.9839
Tree by univariate methods	AE	48	10	0.0235**	0.727	.1095	0.9453	0.0547**
Tree by multivariate methods	EM	19	11	0.0051**	0.196	.0178**	0.0089***	0.9911
	AE	24	10	0.0026***	0.821	0.0009***	0.9995	0.0005***
Neural networks by univariate methods	Growth	23	37	0.0355*	0.662	.0229*	0.9885	0.0115**
	EM	53	29	0.0883*	0.615	.0506*	0.9747	0.0253**
	4Q	49	44	0.0221**	0.638	.02049**	0.9875	0.0125**
Neural networks by multivariate methods	Growth	25	37	0.0492**	0.648	.0407**	0.9796	0.0204***
	AE	24	42	0.0233***	0.668	.0085***	0.9958	0.0042***
	1Q	16	27	0.0390**	0.310	.2590	0.1295*	0.8705
	4Q	27	44	0.0022***	0.714	0.0017***	0.9991	0.0009***

*** = 1%, ** = 5%, and * = 10%; H0 (null hypothesis) is that group means are equal [mean (non-ML) – mean (ML) = 0]; Dark grey cells represent ML outperforming non-ML. Light grey cells represent the converse.

Pairwise results from Table 1 tests show that: (1) Regularisation methods provide better forecasts than univariate methods in forecasting growth. Multivariate methods perform better than regularisation methods in the context of emerging economies.

(2) Tree-based methods provide better forecasts than univariate methods for advanced economies. The same holds true when tree-based methods are compared with multivariate methods. However, multivariate methods also show relatively superior performance in the emerging economy contexts.

(3) Neural networks provide better forecasts than univariate methods for emerging economies, longer forecast horizons (4-quarters-ahead), and in forecasting growth. When compared with multivariate methods, the same conditions

hold, with the exception of the country type—neural networks do better in advanced economies when compared against multivariate methods. Multivariate methods also outperform neural networks at shorter forecast horizons (1-quarter ahead).

(4) No ML class performed significantly better than their factor-based non-ML counterparts.

The results indicate that ML methods tend to outperform their non-ML counterparts in advanced economies for longer forecast horizons, and in predicting growth. In other fields, there is some evidence to suggest that ML methods tend

to outperform their non-ML counterparts in the presence of strong non-linearity in the relationship between independent and target variables. Are non-linearities more accentuated in forecasting growth over longer horizons or particularly for advanced economies? This is outside the scope of this article and a deeper analysis would be needed to examine the underlying causal implications.

Conclusions

Our meta-analysis suggests that ML techniques do not necessarily dominate their non-ML counterparts in every condition, but are definitely superior under certain conditions: for longer forecast horizons, advanced economies, and GDP growth forecasting. Non-ML factor-based methods are especially competitive against ML methods, and we see no significant

results when they are compared against different classes of ML techniques. On the contrary, all ML techniques did significantly better than univariate methods. This is important because univariate methods are still commonly used as benchmarks in forecasts of growth and inflation, effectively setting an artificially low standard for comparing the performance of other techniques. Future studies using ML techniques for forecasting growth and inflation should thus use more competitive benchmarks in order to evaluate the performance of ML techniques more accurately. Our data set also suggests that for growth, ML techniques are used far more in advanced economies than in emerging countries, and this may be driving some of the insignificant results in the case of developing countries. For inflation, while ML and non-ML techniques are used equally in emerging economies, non-ML techniques are used more in advanced economies. Therefore, there is significant scope for growth forecasters in emerging economies and inflation forecasters in advanced economies to experiment more with ML techniques in the future.

NOTES

- 1 Chakraborty and Joseph (2017), for example, provide a review of ML methods and their applicability in financial and economic contexts.
- 2 There are other ways to resample the available data as well. See James et al (2013, Chaper 5) for more details.
- 3 The mode of the response variable can also be chosen as the de facto prediction. Mean, however, appears to be the default choice in macro-economic prediction.
- 4 For details on these techniques, see James et al (2013: 307).
- 5 “Bagging” is short for “bootstrap aggregation.” It is a general purpose technique and can be used for other statistical learning methods too, such as regressions.
- 6 See James et al (2013: 320).

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- 7 As with bagging, boosting too is a general purpose technique applicable on other statistical learning methods (see note 4). However, it is most popularly used on tree-based methods.
- 8 Iterations are called epochs in the neural network literature.
- 9 The weights and biases in the first iteration do not have any feedback and thus have to be assigned arbitrarily.
- 10 The Taylor rule, for example, was first proposed around 1992–93 (Taylor 1993) and modified in 1999 (Taylor 1999).
- 11 The ML techniques used in the identified papers are classified under regularisation, tree-based or neural network methods. Non-ML techniques are classified under univariate, multivariate or factor-based methods.

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Appendix

A Descriptive Characteristics of Included Literature

Table A1: Papers by Country, Time-period Examined, Forecast Horizon, and Indicator Forecasted

Author	Country	Time Period	Forecast Horizon	Indicator
Richardson et al (2019)	New Zealand	1995–2008	1-quarter	Growth
Jung et al (2018)	UK, US, Germany, Spain, Mexico, Philippines, and Vietnam	1987–2016	1-quarter, 4-quarter	Growth
Jahn (2018)	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Portugal, Spain, Sweden, UK, US, and Japan	1996–2016	4-quarter	Growth
Biau and D'elia (2010)	Euro Area	1995–2009	1-quarter	Growth
Sanyal and Roy (2014)	India	1997–2011	1-quarter, 4-quarter	Growth
Roy et al (2016)	India	2006–16	1-quarter, 4-quarter	Growth
Tiffin (2016)	Lebanon	1996–2013	1-quarter	Growth
Chuku et al (2017)	South Africa, Nigeria, and Kenya		1-quarter	Growth
Baybuza et al (2018)	Russia	2008–18	1-quarter, 4-quarter	Inflation
Nakamura (2005)	US	1960–2003	1-quarter, 4-quarter	Inflation
Teräsvirta et al (2005)	Canada, France, Germany, Italy, UK, US, and Japan	1960–99	1-quarter, 4-quarter	Inflation
Medeiros et al (2019)	US	1990–2015	1-quarter, 4-quarter	Inflation
Marcellino (2007)	US	1959–2004	1-quarter, 4-quarter	Inflation
Garcia et al (2018)	Brazil	2003–15	1-quarter, 4-quarter	Inflation
Mahajan and Srinivasan (2019)	India, South Africa, China	2003–19	1-quarter (India only), 4-quarter	Inflation
Leal et al (2020)	Chile	2003–19	1-quarter, 4-quarter	Inflation

A Feminist Foreign Policy for India?

AKSHAYA JOSE DEVASIA

In terms of representation, India has made significant strides towards gender parity in its political, diplomatic, and military institutions but performs worse than other countries with similar developmental profiles. While India has several gender-sensitive foreign aid programmes, they need to be diversified.

In recent years, the notion of a feminist foreign policy has gained popularity. Sweden's government has committed to gender equality being an objective in itself, but also one that is "essential for achieving the government's other overall objectives, such as peace, security, and sustainable development." Canada has promoted an explicitly "feminist international assistance policy" to address poverty around the world. France has developed an international strategy on gender equality, using aid to promote female empowerment. Other countries, such as Japan under ex-Prime Minister Shinzo Abe's "womonomics," have made female equality a centrepiece of domestic reform (Groysberg et al 2017).

For India, the present moment is an opportune time to discuss the feasibility and prospects of a feminist foreign policy. Women's political participation is at an all-time high: the 2019 general election saw female voter turnout matching those of the males. The number of women elected as members of Parliament (78) is also unprecedented. High-profile domestic development schemes—the provision of liquefied petroleum gas cylinders under the Pradhan Mantri Ujjwala Yojana, small-scale financing under the Pradhan Mantri MUDRA Yojana, and sundry other efforts at highlighting *nari shakti* (women power)—recognise women as a policy priority, with acknowledgement even by the President and the Prime Minister. Under these circumstances, is a feminist foreign policy possible?

Numerous studies have demonstrated how incorporating women in conflict prevention and resolution efforts have improved outcomes such as increasing success rates of peace agreements, lowering propensity for conflict, and gathering the critical security intelligence data (Council on Foreign Relations 2019). In India too, there is ample evidence that gender parity in public policy improves decision-making, reduces corruption, prioritises different kinds of public goods, and enhances outcomes for women, children, and families (Dollar et al 1999; Chattopadhyay and Duflo 2004; Baskaran et al 2018). At the same time, the theoretical literature on feminist foreign policies tends to be grounded in certain assumptions—including about the pacifying effects of female leadership—and creates binaries, as between women in the developed and developing worlds (Sjoberg and Gentry 2007; Mohanty 1998). Feminist critics of normative foreign policies have argued that gender issues are often marginalised on account of poor female representation in foreign policy structures and the continuing existence of patriarchal institutional frameworks (Aggestam et al 2018).

In practice, a feminist foreign policy adopted by countries usually constitutes two different sets of policies. The first is greater female representation in foreign policy decision-making

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structures. This has been the focus, for example, in Sweden. A second element is an explicit priority placed on female empowerment through foreign assistance and programmes. This element has been prioritised by the governments in Canada and France. Arguments in favour of a feminist foreign policy in India must, primarily, assess how the country fares in these two respects.

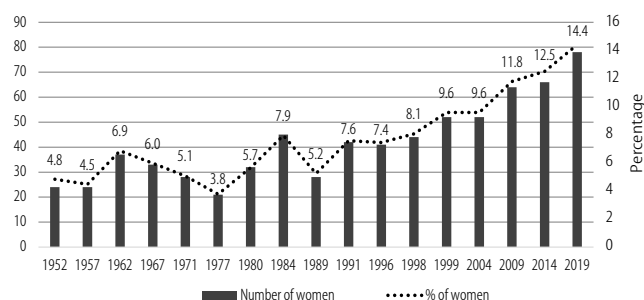
Representation in Foreign Policy Institutions

There are several institutions involved in foreign policymaking in India. Official institutions include the union government, a permanent civil service, and the armed services (army, air force, and navy). Although the President of India is the commander-in-chief of the armed services, the *de facto* political leadership of the Prime Minister is a reflection of the parliamentary elections. In addition to enjoying the support of the Lok Sabha, he heads a cabinet and a council of ministers. The Indian Foreign Service (IFS) represents the only civil service dedicated to international affairs, although a large number of other civil services—notably the Indian Administrative Service (IAS) and Indian Police Service (IPS)—can play key roles in foreign policymaking. The three military services are led by officer corps, of whom a small minority rise to the positions of leadership. Although non-official institutions—the media, private sector, scholarly community, and think tanks—play important and often informal roles in foreign policymaking, they are not considered in this analysis. However, it is possible that women are better represented in these areas than in official institutions (Jaishankar 2019).

Since attaining independence in 1947, only a few senior officials, in the three areas of official foreign policymaking, have been women. These include President Pratibha Patil (2007–12), Prime Minister Indira Gandhi (1966–77, 1980–84), External Affairs Minister Sushma Swaraj (2014–19), Defence Minister Nirmala Sitharaman (2017–19), and Foreign Secretaries Chokila Iyer (2001–02), Nirupama Rao (2009–11), and Sujatha Singh (2013–15). There have been rare cases of women in senior military leadership positions up to three-star ranks. The handful of examples—although of increased frequency in recent years—are insufficient to construct a complete picture of female representation in Indian official institutions. Instead, we examine the number of women in the Lok Sabha and cabinet as a proxy for institutional representation in politics; the number of women in the IFS for representation in the diplomatic corps; and the number of women in the armed services, especially among officers. We compare the trends in India across time and with other countries in South Asia (which have similar cultural attributes and levels of development). We also assess policies that encourage and discriminate against female representation in these areas.

Women in political leadership positions: The number of women elected to the Lok Sabha has steadily increased since independence, and particularly since the 1990s. While the first general election of 1951–52 saw only 4.5% of seats won by women, the newly elected 17th Lok Sabha boasts the largest number of female members of Parliament (14.36%) (Figure 1).

Figure 1: Percentage of Women in the Lok Sabha

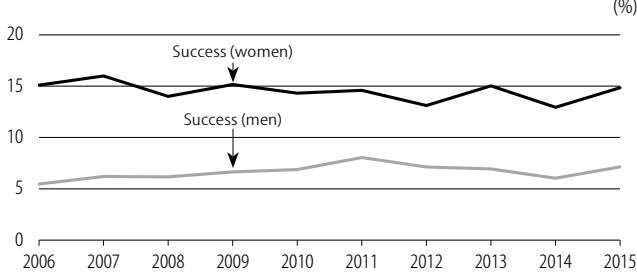


Source: Lok Sabha website, NIC.

In fact, women have increasingly won parliamentary elections at a higher rate than the male candidates over the years, although this appears to be for a number of diverse and counterintuitive reasons (Vaishnav and Hinston 2018). Similar trends are visible in the number of cabinet positions occupied by women. The percentage of women in the union council of ministers (consisting of both cabinet ministers and ministers of state) has not seen a major rise since 1989. However, there has been an increase in the number of cabinet ministers, albeit from a low base. Prior to 2006, there was never more than one female minister in the union cabinet. The 2014 cabinet, under Narendra Modi, saw a record of six female cabinet ministers, but the number diminished to three following Modi's re-election in 2019. The last decade has, therefore, seen only a marginal increase in female political leadership at the national level.

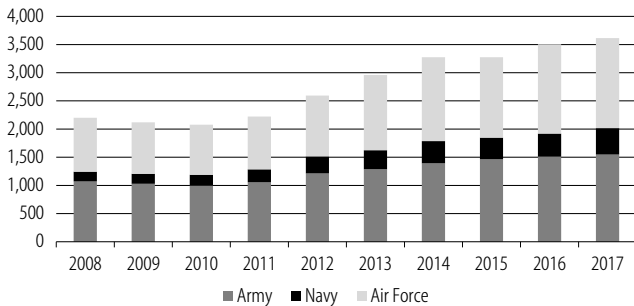
Despite the increased representation in Parliament and among cabinet positions in recent years, India fares rather poorly in terms of women's political participation at the national level relative to other countries. Around the world, high-, middle-, and low-income countries have all witnessed a steady increase in parliamentary representation since the turn of the millennium. Low-income countries have seen female parliamentary representation almost double in this period from roughly one-eighth to one quarter, during a time when the percentage of women in India's Lok Sabha has grown from 9% to 14% (Figure 4, p 44). Moreover, India fares poorly relative to the other South Asian countries. One-third of Nepal's Parliament and one-fifth of the legislatures of Pakistan and Bangladesh consist of women (UNDP 2014). All three countries have mandatory quotas, either in the legislature itself (as in Pakistan and Bangladesh) or in the candidate lists of political parties (as in Nepal). India has contemplated having 33% parliamentary reservations for women, a proposal first introduced in Parliament in 1996. Affirmative action of this kind has already been implemented in the local governments, with some states increasing their quota to 50%, and some Indian political parties have already committed to reservations for women in their candidate lists (Ravi and Sandhu 2014). Although reservations have been controversial in India and criticised even by some women as a poor way of ensuring gender parity in politics, there is evidence of such forms of affirmative action increasing political participation among younger generation of women, decreasing social stigmas, and demonstrating the potential of female leadership (Sharma 2016).

Figure 2: Success Rate of Female versus Male Candidates in UPSC Mains Exam (%)



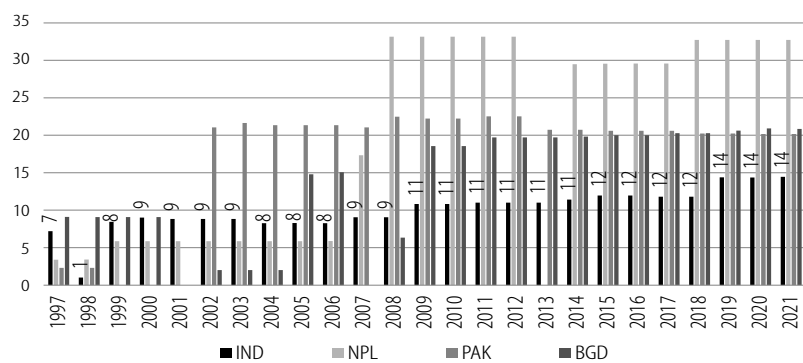
Source: UPSC annual reports.

Figure 3: Number of Women in the Indian Defence Forces (excluding Medical Streams)



Source: MOD annual reports.

Figure 4: Percentage of Women in National Parliaments in South Asia



Source: World Bank.

Women in diplomacy: As in many other professional disciplines, women have been chronically under-represented in the IFS, which staffs most positions in the Ministry of External Affairs (MEA) and officer positions in foreign diplomatic missions, such as embassies, high commissions, and consulates-general. Between 1974 and 1980, the percentage of women joining the IFS ranged between 5% and 10%. However, the numbers nearly doubled in the 1980s, with roughly 22% of new recruits being female between 1985 and 1988, although this increase still meant that by 2005, women comprised only 14% of the IFS. Recent recruitment trends suggest higher female involvement in the years to come, with the percentage of women among incoming batches between 25% and 40% over the past decade. Figure 2 shows that female applicants to the Union Public Service Commission (UPSC)—from which the IFS recruits—have a higher rate of examination clearance (13%–16% since 2006) compared to men (5%–8%). As the number of female applicants is far fewer than their male counterparts, the government has taken steps to incentivise more

women to apply. For example, female candidates are not required to pay an exam fee. At the same time, successful female candidates are less inclined to join the IFS compared to other civil services due to concerns that frequent foreign postings may result in separations from families.

India fares comparatively well against other countries in its region in terms of female representation in its diplomatic corps. Other South Asian countries have initiated various affirmative action schemes for women in the civil and diplomatic services. Prior to 2018, Bangladesh allowed for the lateral entry of women to executive posts to compensate for lower female representation (UNDP 2011). In Pakistan, the introduction of a 10% quota in 2007 resulted into an increase in overall civil service recruitment of women; the 2017 batch was composed of 50% women. And in Nepal, the Parliament has mandated 33% reservation for women in all the state structures, including the civil services.

Women in the armed services: Few women have risen to senior military leadership positions in India, and the recruitment of significant numbers of women to the officer corps is a relatively recent phenomenon. The Indian Army began to recruit female officers in 1992, with the percentage of women serving in the army in all the positions growing from 0.02% in 1994 to 3.89% in 2019. About 85 women officers are commissioned as permanent and short service officers from the Officers Training Academy (OTA) every year. The Indian Navy has recorded a 2.37% increase in female recruitment between 2004 and 2017, with women serving primarily in indirect combat and support roles. Women are best represented in the Indian Air Force (IAF) at 13.28% and make up 10% of the coast guard (Figure 3).

However, the overall numbers and positive trends obscure the continuing limitations on female involvement in the armed services, particularly in roles that could lead to leadership positions. Permanent commissions for women are restricted to specific branches, such as the Judge Advocate General's Corps, Army Education Corps, naval construction, and accounts in the air force (Bhoite 2016). Many combat roles are also off limits, including as special operations forces in the army and as sailors in the navy. Army Chief General Bipin Rawat has said publicly that the army is not ready for women to assume combat roles, while the navy has argued that ships do not currently have the infrastructure to support female officers at sea for extended periods. The coast guard has placed restrictions on the frequency and timing of childbirth among female members. Even the IAF—which has allowed female combat pilots since 2015—has created higher barriers for testing female combat pilots and makes various distinctions for female trainees. There is also the structural discrimination against women in the armed services, including in terms of pensions and promotions. Many arguments against greater female involvement in the armed services have long been familiar—if questionable—tropes: that women would affect unit cohesion,

lower physical standards, and create unfavourable work environments (Randhawa 2005).

At the same time, there are also elements of affirmative action. These include certain lowering of barriers to screening for female pilots. Other policy changes include increasing the tenure and prospects for upward mobility for female Indian Army officers. A recent proposal to acquire three new training ships that will have the infrastructural capacity to support both men and women is underway, after which the navy will induct women in all branches. India has also promoted women's participation in the United Nations' (UN) peacekeeping. The first all-female UN peacekeeping force was dispatched by India in Liberia in 2007 and female police units have subsequently been deployed there. In 2015, India committed three more female police peacekeeping units to the UN missions in Africa.

Other South Asian countries have also taken steps to encourage women in the military, in some cases, more progressively than in India. Nepal has a 30% quota in its army for women. Pakistan opened fighter pilot positions to women in 2003, although only one of the six trained female pilots was declared combat-ready by 2013. Bangladesh introduced commissions for female officers in 2000 but only in the support roles; the first female combat pilots were featured in 2014. In Sri Lanka, a women's corps army regiment has seven battalions, and women completed their paratrooper course for the first time

in 2009. Significantly, both Bangladesh and Sri Lanka have a long history of stationing female officers on naval ships.

Foreign Assistance for Women's Empowerment

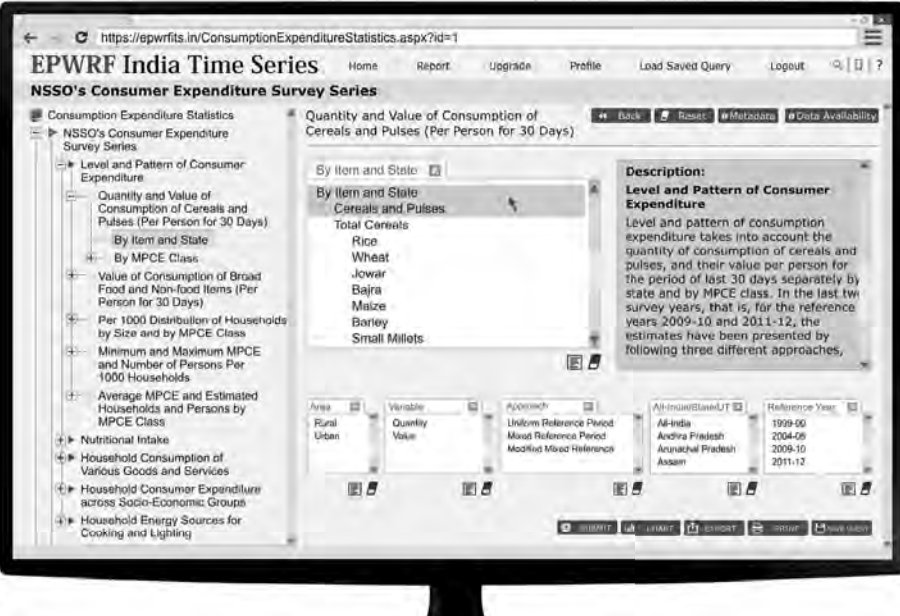
Beyond representation, an additional aspect of a feminist foreign policy—and the one emphasised by the likes of France and Canada—is in terms of foreign assistance for women's empowerment (French Ministry for Europe and Foreign Affairs 2018; Global Affairs Canada 2017). One avenue has been via the UN, where India chaired the final negotiating session for the establishment of UN Women in 2010, and has since contributed \$6 million, the most among developing countries. Apart from the UN, there are numerous examples of India featuring women and gender issues in multilateral forums. India has been providing technical assistance to the South Asian Association for Regional Cooperation (SAARC) development fund (sDF) for a project on women's empowerment and maternal and child healthcare. In 2008, India entered into an agreement with Brazil and South Africa as part of the India, Brazil, and South Africa (IBSA) format to support women's issues, while in 2014, India organised a women's empowerment workshop at an Indian Ocean Rim Association (IORA) forum. The India centre for migration, affiliated with the MEA, had collaborated with the UN Women for training and raising awareness among the domestic workers in Andhra Pradesh and Telangana.

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Additionally, in 2005, India established a process of gender-budgeting to introduce gender into “programme and policy formulation, assessment of needs of target groups, review of existing policies and guidelines, allocation of resources, implementation of programmes, impact assessment, [and] reprioritisation of resources.” Over 56 ministries and departments have established gender-budgeting cells to date, protecting them from budget cuts; since 2010, gender budget has constituted between 4% and 6% of the overall budget of India. A gender budget was set up in the MEA in 2015–16 to identify specific schemes benefiting women, assess the impact of existing programmes, and target beneficiaries in the performance budget.

Beyond departmental and multilateral commitments, gender-based aid is increasingly featuring in India’s growing foreign assistance efforts. A particular focus has been placed on Afghanistan, one of the largest recipients of Indian aid. Assistance has gone towards upgrading neonatal and maternal healthcare facilities in Kabul; the establishment of a vocational training centre to teach garment-making, fruit processing, and horticultural techniques to 1,000 women; and training for 350 government officials in women’s empowerment. India has also assisted with female entrepreneurship development and worked with the United States (US) to run joint programmes for women.

Other than Afghanistan, India has extended gender-specific assistance to Cambodia, El Salvador, Fiji, Lesotho, Myanmar, Namibia, Palestine, Papua New Guinea, Senegal, and Tajikistan, etc. These efforts include supporting women’s sports teams, developing maternity clinics, donating sewing machines, establishing schools for girls, upgrading a women’s police training centre, and providing food-processing equipment. Some Indian projects have fallen under the long-running Indian Technical and Economic Cooperation (ITEC) programme. The Know India Programme—designed to expose people of Indian origin to India—has allocated 51% of its budget to female participants. India has also entered into partnership agreements, including with the US on women in science, with Sri Lanka on trade facilitation for women, and with Bangladesh on women and child trafficking.

A particularly novel form of assistance involving a non-government entity is the Barefoot College, a women-centred initiative to support sustainable development, including solar energy, water, education, and health. Its flagship programme has trained over 2,200 women in solar engineering, operating in 1,300 villages spread in over 80 countries. This provides women with a source of income and enables them to train more women in their villages. With a main campus in Rajasthan, Barefoot College has established satellite campuses in Tanzania, Senegal, Liberia, South Sudan, and Burkina Faso. Training centres are currently being set up in Guatemala and Fiji. Although a private initiative, the MEA has provided financial support (close to \$1.5 million annually) to promote Barefoot College efforts in new countries and regions.

Contemporary Critical Debates

A question often raised is how a feminist foreign policy can be calibrated with other contradictory national policies; for

example, the arms trade policy with scholars like Vucetic (2018) arguing that most forms of militarisation tend to be inherently anti-feminist in nature. Anna Stavrianakis (2016) further argues that the idea of a feminist foreign policy facilitating a move towards a more regulated and responsible arms trade (sometimes expressed by Canada and Sweden) is simply another justification to legitimise liberal militarism. Responding to criticism of its arms deals, Sweden took incremental steps to align its trade policy with the larger objectives of its feminist foreign policy. In 2015, the government cancelled a \$500 million defence deal with Saudi Arabia on the grounds of human rights and introduced a legislative reform in 2017 to its arms sales regulations by including a clause to account for the “democratic status” of the receiving country (Government of Sweden 2018). Clement and Thompson (2019) call for an expansion in the current understanding of feminist foreign policy to include “a complete, consistent, and coherent approach to a body of work encompassing all auspices of foreign policy and international relations.” They believe this approach will help bring all foreign policy tools from aid, trade, and defence to diplomacy under the ambit of a feminist foreign policy. While, to some extent, it is a rhetorical tool, such a policy is necessary as it coerces greater accountability on national policymakers to rethink these contradictions with other regulations, thereby becoming a valuable framework for restructuring policy objectives. On a practical level, it also incentivises gender mainstreaming in internal resource allocation processes and the security work conducted by foreign services.

A second question often raised is what a feminist foreign policy might look like in developing countries, accounting for culturally different perceptions of feminism and agency compared to its mostly Western origins. Margot Wallström et al (2021) suggest that a useful starting point could be to initially introduce a feminist foreign policy as a gender-focused development policy, advocating that placing gendered concerns at the centre of programmatic action tends to ensure more equitable and inclusive developmental outcomes. The concept of a feminist foreign policy is, and should remain, in evolution to cater to the contextual needs of the specific countries and communities it is applied in. There are no universal guidelines or indicators that determine its success in any country, with the measures of representation and gender-focused economic resource allocation acting only as a pathway to assessing the extent of institutionalisation of a gendered foreign policy. Reiterating the fundamentals, Wallström says that the concept is, in principle, guided by the belief that the only way to draft inclusive policy is by bringing women and other marginalised populations to the table.

A feminist foreign policy in a developing nation should be cognisant of the distinct lived experiences of the non-Western women, and its construction should significantly rely on the postmodern and postcolonial scholarship that examines culture-specific ideas of women’s sense of self, agency, and security (Rosamond 2013). At an international level, it should be normalised to construct this policy from both a feminist and

intersectional lens (Thompson and Clement 2019). A lot of the current understanding of the feminist foreign policy is argued to better suit the Western developed nations, thereby facilitating greater dialogue between developing nations through multilateral forums such as the Association of South-east Asian Nations and the African Union will be key towards contextualising this policy. The process must also incorporate players including non-governmental organisations, activists, academics, industry officials, and religious representation to make a feminist foreign policy more expansive, inclusive, and sustainable in the long term.

Conclusions

This broad audit of gender in Indian foreign policy reveals a few distinct trends. First, while India has made some significant strides to improve female representation in leadership positions in politics, diplomacy, and the military, women are still

significantly under-represented in these fields. India fares poorly relative to its South Asian neighbours, let alone many countries in the developed world. Based on the experiences of others, affirmative action in national politics, positive career incentives for diplomats, and the elimination of discriminatory policies in the military could contribute significantly to better the female representation.

India performs better in the second aspect of feminist foreign policy, that is, prioritising women's empowerment in foreign assistance programmes. These include small-scale efforts through multilateral, bilateral, and joint initiatives in third countries, as well as commitments at the UN and in government budgetary allocations. Such efforts could certainly be broadened, deepened, and better advertised. As a government rhetorically prioritises female empowerment at home and a leadership position abroad, a feminist foreign policy could be a natural consequence.

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To Write Was to Cense

Kāvyaśāstra and Creative Freedom in Premodern India

SREENATH V S, MINI CHANDRAN

Poetics is always thought of as pertaining to the art of literary composition. However, by laying down the rules of composition, it can also condition the writer to produce socially acceptable works of art. The paper argues that *kāvyaśāstra* in ancient India functioned like a conditioning mechanism and persuaded the writer to voluntarily confine themselves within the hegemonic limits set by the prevalent ethical and moral codes, making external controls redundant. This can perhaps explain why, unlike the different forms of restrictive forces, we have been accustomed to, at various points of history across different cultures, premodern Indian literature that is unmarked by any overt cases of censorship.

Premodern Indian literature presents us with a rather baffling riddle by being relatively unmarked by any overt cases of restrictive or oppressive forms of control over writers and artists when compared to the persecution of writers and thinkers like Socrates in Greece or Ovid in Rome. A solution to this conundrum is sought through an understanding of *kāvyaśāstra* (the practice of the Sanskrit literary tradition) and *kaviśikṣā* (formal disciplinary training in the art of poetic composition) in premodern India as inhibiting as forces inherent to the practice of literature whereby writers were encouraged to be circumspect about the content and form of their creative works. We argue that this *śāstra* tradition, and especially the concept of *aucitya* or literary propriety, encouraged the production of a cautious literature that did not offend or provoke established beliefs and value systems. That said, this paper does not claim that the Sanskrit *kāvyaśāstra* completely eliminated from literature any possibility of challenge to accept notions of social propriety or that Sanskrit *kāvya* did not produce anything that could challenge the dominant value system of society. Rather, this exploration is to analyse the various mechanisms by which Sanskrit *kāvyaśāstra* aimed to condition the creative writer along the lines of accepted moral and social codes and enquire whether these prescriptive guidelines effectively segued into restrictive methods that approximated contemporary methods of censorship. The term “censorship” is used here as a heuristic device in the complete awareness of the risks involved in applying what is a contemporary sociopolitical mechanism to understand the literary traditions of a bygone past.

Literature as Temptation

Any attempt to regulate artistic creation stems from a concern to protect the readers or spectators from the putative harmful impact it may have on them, also implying the (often unasked) question about the teleological aspect of art. The “temptation” potential of literature and its ability to sway people’s minds and possibly lead them astray mark many classical Greek and Latin treatises on the subject. However, this does not imply undervaluation; on the contrary, they seemed to have been even more wary of the impact of literature and art. For instance, consider Plato’s (2016: 127) categorical denunciation of poetry premised on the deleterious influence it has on the pliable minds of the future guardians of the republic:

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I do not say that these horrible stories may not have a use of some kind; but there is a danger that the nerves of our guardians may be rendered too excitable and effeminate by them.

The above quote cannot be read as an outright negation of the aesthetic power of literature. Plato, ironically, seems to agree with his “other” in the history of censorship—John Milton in *Areopagitica*—and in his estimate of the impact of literature. If Plato is wary of the siren’s song, Milton (1890: 16–17) is exultant, proclaiming that books “are as lively, as vigorously productive, as those fabulous dragon’s teeth; and being sown up and down, may chance to spring up armed men.” However, Milton’s confidence is placed in his ideal reader—the “pure to whom all things are pure,” like Dionysus Alexandrinus—whose divine revelation is to “[r]ead any books whatever come to thy hands, for thou art sufficient both to judge aright and to examine each matter” (Milton 1890: 48). This judicious and mature reader could be trusted to choose well and wisely, whereas Plato’s reader had to be handheld as they negotiated the treacherous territory of poetry and, by extension, literature. Although the premodern classical concepts of art were intricately tied up with philosophy and theology, implied in these assumptions or theorisations is the idea of art or literature as a frivolous occupation that poses a threat to the realm of the mind and serious thought, reflecting a dichotomy between mind and body, the spiritual, and the corporeal.

On the contrary, in premodern India, classical Sanskrit poetics or *kāvyaśāstra* conceptualised literature as essentially a spiritual activity with the aim of literature coinciding with the philosophical aim of liberation from materialistic attachments. Aesthetic pleasure (*rasa*) was the secular counterpart of the spiritual bliss arising from deep contemplation of a metaphysical nature. The experience of *rasa* was an aesthetic process that involved the loss of one’s individual ego as it merged to become one with that of the fictional character. Consequently, the emotions experienced in the process are not one’s own but that which transcend the ordinary, real-life ones. These emotions dwell in the realm of the supra real, leading Abhinavagupta (1990: 1.18 L), in his 11th-century commentary on Ānandavardhana’s *Dhvanyāloka*, to say that the ontology of aesthetic relish is “*alaukika* or supernatural.” Writing in the 14th century, Viśvanātha (2016: 40), in his *Sāhityadarpaṇa*, even went to the extent of terming it as *brahmāsvādasahodara* or the kin of spiritual meditative bliss.¹ Nevertheless, this does not imply that Sanskrit poetics provided the poet with complete creative freedom to write whatever they wanted and to speak the truth to power. Though not openly restrictive, its precepts like *aucitya* strived to mould the writer or artist according to the prevailing cultural values of the period. It is difficult to ignore how the private and internal processes that went into the creative act of writing—the exclusions and inclusions involved—acted as the adjudicator of morality and an enforcing authority of public decorum, bearing a strong similarity to the public office of the censor in ancient Rome. Writing also became a form of “censing,”² assessing and weighing the appropriateness of the word, the character, and the story before committing it to the rigidity of the written script. Besides

this, the generic specifications stipulated by texts on poetics ensured the suitability of the work in terms of form and content to the readership it envisaged.

The Forms of Literary Practice

For instance, the *Nāṭyaśāstra*, the most ancient treatise on the art and craft of the theatre, throws much light on the norms that regulated the performing arts in those days. According to this text, art was representative and not mimetic, conceived as *anukaraṇa* (representation) that depicted life on earth with all its beauty and ugliness since it was intended to be a secular guide to spiritual well-being: “It gives you peace, entertainment and happiness, as well as beneficial advice based on the actions of high, low and middle people” (Bharata: 1997: I.85). The “high seriousness” attributed to its function also ensured a comparable commitment, bordering on religiosity, to the profession from its practitioners, preventing them from any manner of profanation of their “sacredly secular” vocation.

Nevertheless, the *nāṭya* allowed them the license to indulge in profanation, if they so wished, through a rigid generic categorisation that sought to demarcate the play at the level of content and receptor. Plays had 10 generic forms: *nāṭaka*, *prakaraṇa*, *samavakāra*, *īhāmṛga*, *ḍima*, *vyāyoga*, *aṅka*, *prahasana*, *bhāṇa*, and *vīthi* (Bharata 1999: xx.2). The *nāṭaka* had to be based on a well-known story—usually the epics—and the main characters had to be kings or heroic supermen (Bharata 1999: xx.8). As Krishnamoorthy (1964: 117) observes, this “shuts out from the principal characters any trace of vulgarity and triviality and leaves no room for what is low and immoral.” The “lower” forms of drama were *bhāṇa*, *prahasana*, and *vīthi*, which had characters of low status. The *bhāṇa* was a one-act play, more like the stand-up comedy of today (Bharata 1999: xx.95–98), while the *vīthi* was the ancient counterpart of modern street theatre that catered to plebeian tastes (Bharata 1999: xx.99). The *prahasana*, a farce that featured characters from the lower strata of the society, focused primarily on the comic *rasa*. The language could be colloquial, bordering on the outright obscene (Bharata 1999: xx.90–94).

While the *nāṭaka* revolved around the Sanskrit-speaking upper class, upper-caste male, the lower forms of *prahasana* or *ḍima* consisted of women, the lower caste, and lower-class men who were not allowed the use of Sanskrit and spoke Prākṛit. Generic demarcations thus ensured non-transgression of norms on the part of the writer and the spectator; after all, if a “high culture” form like the *nāṭaka* indulged in mocking the Brahmin overlords or masters, it would veer dangerously close to its “low culture” counterpart, jeopardising its generic identity and becoming a hybrid. Hybrids that undermine generic purity are always a problem and, in this case, would have been costly to the writer seeking a secure position within the canon or the spectator who claimed or aspired to the cultural capital that came with social class. The process of literary composition and appreciation was a skill meant to be acquired through careful education. The social and classist ramifications of the acts of writing and viewing or reading kept heretic tendencies in check.

Literary practice can thus be seen as perpetuating the social practice governing gender and class norms, even as it subsisted on that very social substratum. The writer by default could not exist outside of the “accepted and acceptable” social value systems, as writing that did exist outside the charmed circle would have been, by definition, not literature.

Aucitya

It is in this liminal space between the literary and the social that we can locate the concept of *aucitya*. *Aucitya*, or propriety, had always been central to the treatment of literature in Sanskrit literary practice or *kāvyaśāstra*, although it developed as a full-fledged theoretical position in literary science only in the 11th century with Kṣemendra’s (1954) *Aucityavicāracarcā*. Here, one should not confuse the idea of *aucitya* with the Greek dramatic concept of decorum, which was concerned about what could not be depicted on stage. *Aucitya* ensured that literary or artistic depictions conformed to accepted social mores and belief systems; hypothetically, this also meant that even objectionable themes or language could be part of a work of art, provided it conformed to the contemporary social customs and practices.

Although Bharata (1997: xiv.62) does not use the term *aucitya* as such in his *Nāṭyaśāstra*, his view that characters in a play should wear costumes according to their age, should walk according to their costume, and should speak according to their gait invokes the same concept.³ Later theoreticians, from Bhāmaha in the seventh century to Viśvanātha in the 14th century, were also equally concerned with the concept of *aucitya* in their discussion of *kāvyaśāstra*, the improper elements in literature that can ruin the beauty of *kāvya*.⁴

In his *Sarasvatīkaṇṭhābharaṇa*, Bhoja (1934: 942–49) insisted that writers should essentially conform to eight kinds of *aucityas*—*viśayaaucitya* (the propriety of subject), *vācyaucitya* (the propriety of speech), *deśaucitya* (the propriety of place), *samayaucitya* (the propriety of time), *vaktṛviśayaucitya* (propriety of using language according to the status of the speaker), and *arthaucitya* (propriety in the use of language according to the subject matter)—manifesting the seamless weaving of the social with the literary that is found in much of classical Sanskrit criticism.

The spillover of the social into the literary was soundless and unobtrusive, as *aucitya* functioned like a prohibitive injunction from within the writer. This social and aesthetic conditioning functioned through three interconnected levels, beginning with the Sanskrit literary theoretician conditioning the creative writer in conformity with the interests of the hegemonic structures, then the creative writer moulding the creative artefact according to the dominant social norms, and finally, the creative artefact encouraging the reader to self-fashion themselves. Since women and the lower castes were denied access to Sanskrit, we can safely assume that this social and aesthetic conditioning exercised by *kāvya* upon the reader was primarily restricted to the upper class and upper-caste sections of the society that was predominantly male.

The discursive framework of *aucitya* followed a two-pronged method to mould the writer. First, it functioned by setting the ideal model for the representation of each character type and emotion, thereby encouraging the writers to conform to these models of character types while representing them in *kāvya*. Second, it persuaded the writers to modify (censor?) indecorous components in an already existing story when they retold it later.

Bharata (1997: vi.49), in the sixth chapter of *Nāṭyaśāstra*, presented the prototype of characters and the emotions appropriate to them. For example, the source of *śṛṅgāra* rasa or the erotic emotion should always be associated with a young (*yuvaprakṛti*) heterosexual couple (*strīpuruṣahetuka*) belonging to the noble category (*uttama*). Besides character attributes, there was a detailed manual on the gestures and gait of characters according to their social status—noble (*uttama*), middle class (*madhyama*), and the lower class (*adhama*)—as well as gender.⁵

Rasābhāsa

Closely related to this tendency of setting models for each character type was the pervasive idea that plots could be modified so that an otherwise noble character could be saved from committing an occasional act of impropriety.

In *Śṛṅgāraprakāśa*, Bhoja (1963: 463) chronicled such incidents from the past where the poets, by rewriting the occasional acts of impropriety committed by an otherwise *uttama* character, refashioned older texts according to the prevalent notions of *aucitya*. For example, in the play *Nirdoṣadaśaratha* (*Faultless Daśaratha*), Rāma is exiled not by Daśaratha urged on by his wife Kaikeyī but by two magical creatures that impersonate them. In Bhavabhūti’s *Mahāvīracarita*, Rāma has a fair duel with Vālin as opposed to the original plot in which Rāma kills Vālin with an arrow from behind. Bhaṭṭa Nārāyaṇa’s *Veṅṅsaṃhāra* depicts Bhīma as possessed by a demon when he drinks Duḥśāsana’s blood because such a heinous act was not compatible with the nobility of Bhīma’s character. In *Harivaṃśa*, Māyāvātī is presented as the reincarnation of Ratī, the wife of Kāma and not as the wife of her lover Pradyumna’s guru, on the ground that love for the guru’s wife was socially unacceptable. Most importantly, in Kālidāsa’s *Abhijñānaśākuntala*, Duṣyanta fails to acknowledge Śakuntalā as his wife not because his love for her is inconsistent but because she was cursed by sage Durvāsa to be forgotten by Duṣyanta.⁶

Such acts of modification were often implemented on the ground that any violation of the existing moral and social order would result in *rasābhāsa* or the semblance of *rasa*. *Rasābhāsa* is a fault in the production of *rasa* that occurs when the components fail to generate the intended *rasa* because the attention is directed either towards an improper object or in an indecorous manner. However, what appears to be an aesthetic anomaly also had a function—*rasābhāsa* was used in the depiction of degenerate characters who did not observe the moral and social order of the society (Udbhaṭa 1982: 97). A villain’s villainy could not but be depicted through violation of

the accepted codes of decency and morality as also observed by Pollock (2001: 211):⁷

But the presence of *rasābhāsa*s such does not enfeeble literature, as if, since “the sole aim of literature” is *rasa*, when “real *rasa*” is not present, the true aim of literature is not attained. How, after all, could one have *Rāmāyaṇa* without *Rāvaṇa*?

Thus, *rasābhāsa* provided a negative role model or a collation of the elements that necessarily had to be avoided in the representation of an ideal situation or an *uttama* character type; this made it almost a declaration of socially unacceptable and subversive elements that taint an ideal situation or character type.

Ānandavardhana, for example, discussed the importance of modifying the improper representation of *śṛṅgāra rasa* in the case of characters belonging to the noble class (*uttama*) like kings and gods. He observed that

accordingly, whether in the literature of performance or in poetry which is not performed, the description of vulgar sexual enjoyment between characters of the upper class, kings and ladies, is highly indecent, just like the description of the sexual enjoyment of our parents. Precisely, the same charge appears within the sphere of the gods. Furthermore, sexual intercourse is not the only form of love-in-enjoyment (*saṃbhoga-śṛṅgāra*). (Ānandavardhana 1990: 3.10-14 b)

The same theoretical position is displayed by Vidyānātha (1933: 106) in *Pratāparudrīya* where he asked poets to avoid the representation of indecorous situations and character types.⁸ The effort to exclude improper elements was applicable not only to the representation of character types and situations but also to the very diction of *kāvya*. Literary theoreticians starting from Bhāmaha instructed the authors to avoid terms that were considered taboo. According to Bhāmaha, writers were expected to be discriminating in their use of words and shun those that were *śrutiduṣṭa* (offensive to the ears), *arthaduṣṭa* (had improper or objectionable meaning), and *kalpanāduṣṭa* (had objectionable construction wherein joining of words give rise to an objectionable sense). Bhāmaha (1998: I.47–49) gave a list of words and expressions that were to be avoided, like *varcaḥ* (semen), or word combinations like *hiraṇyaretā* (because one part of this expression—*retā*—contains a taboo word).⁹

The examples of *aucitya* given above may appear to be more in keeping with the classical Western or Greek notions of decorum, but in its insistence on the social acceptability of certain words or acts represented by those words, *aucitya* also became a literary index of socially acceptable behaviour. This implied the careful avoidance of what the hegemonic forces in society considered to be the vulgar and uncouth in high cultural forms meant for the elite and cultured classes, thus ensuring the production of a literature or art form that is suitably cleansed of impurities.

This insistence on the appropriateness of theme and word, moreover, seems to anticipate the “contemporary community standards” guideline employed today in legal tests of obscenity. Obscenity laws in many countries of the world stipulate that the matter charged as obscene should be evaluated according to the prevalent standards of the acceptable before a legal pronouncement is made. Extending the “community standards”

yardstick to other domains like blasphemy and treason, it is not difficult to see how a strict adherence to *aucitya* would have helped the writer pre-empt any allegation of violating the existing standards with respect to the (re)presentable in art and literature.

The Writer

Aucitya thus had to be shifted from the external world of the *kāvya* to the internal landscape of the writer’s mind for it to take real effect. It is interesting to note that *kaviśikṣā* (formal training of the poet) being a prerequisite of creative writing, the creative writers were preconditioned to produce literary artefacts that conformed to the dominant conception. The epistemological framework of *kāvyaśāstra* compulsively influenced the writer in literary composition and dissuaded the composer of a *kāvya* from challenging the limits of acceptability or upsetting the status quo.

The genre of *śāstra* or the prescription of acceptable practices in a field of knowledge was an integral part of almost all knowledge systems in early and medieval India, covering a wide range of areas such as ethics and morality (*dharmaśāstra*), erotica (*kāmaśāstra*), drama (*nāṭyaśāstra*), sculpture (*śilpaśāstra*), astrology (*jyotiśśāstra*), and salvation (*mokṣaśāstra*). According to Patrick Olivelle (2016: 13), the term “*śāstra*” is simultaneously “a system of knowledge that a person would seek to master and a treatise codifying such knowledge that a person would read, memorize and understand.” Codifying “the positive and negative regulation of some given human practice,” *śāstra* in any field of knowledge played a vital role in preventing any aberration in the praxis of knowledge (Pollock 1985: 501). In keeping with the *śāstra* tradition, *kāvyaśāstra* also played a vital role in defining the form and shape of literature in what Pollock (2006) calls the “Sanskrit cosmopolis.” We have already seen how, despite the concern of literary theory being primarily the rules concerning prosody, it was also attentive to the propriety (*aucitya*) underpinning the representation of both content and characters. To standardise and eliminate impropriety in the portrayal of characters and situations, the literary tradition insisted on poets learning other *śāstric* traditions such as *kāmaśāstra* (theory of erotics), *arthaśāstra* (theory of statecraft), and *mokṣaśāstra* (theory of salvation) that codified the idea of “propriety” in various fields of knowledge in quotidian life.¹⁰

This is also corroborated by Sheldon Pollock who observes that the Sanskrit *kāvya* tradition for the most part did not veer away from the generally accepted representation of character-types and situations. It encouraged typicality and did not usually counter the existing dominant world view of the society:

Sanskrit poets were interested in exploring typicality and, accordingly needed to master it across the whole universe of emotion. How were women expected to act when first falling in love, when confronted by an act of infidelity on the part of their lovers, when desiring someone other than their husband? To answer such questions a discourse arose that aimed to construct a typology of character. (Pollock 2009: xxxiii)

This typicality in the representation of character types and situations was maintained throughout the history of Sanskrit

kāvya tradition, primarily through the process of kaviśikṣā or formal training in kāvya. Formal education in the art of composing literature was absolutely compulsory in the *kāvyaśāstra* tradition, and teaching the idea of *aucitya* prevalent in the society was always an important component of the syllabus of kaviśikṣā.

The exponents of *kāvyaśāstra* propagated the view that a *kavi* or poet, even if naturally endowed with the talent of composing poems, would remain incomplete as a creative writer in the absence of proper training. In other words, the *kavi* was made to undergo a conditioning process before the production of kāvya. Although *pratibhā* (inborn genius) was often privileged over *vyutpatti* (training), the latter was considered to be an indispensable element in the molding of a good poet. Sanskrit literary theoreticians from Bhāmaha onwards talk about the importance of formal training in kāvya. He maintained that one should start composing kāvya only after gaining knowledge in śāstras and learning the kāvya of other great poets (Bhāmaha 1998: I.10). According to Daṇḍin (1962: I.104), *pratibhā* and proper training in śāstra are the two sources of poetry, and he goes to the extent of saying that even if a person is bereft of *pratibhā* or genuine talent, they can become a good poet through rigorous training. V K Chari (1993: 33) observes that “significantly, *pratibhā* is mentioned as only one of the causes of poetry together with training (*śikṣā*) and understanding of the world (*vyutpatti*).” One was not born a poet but made a poet who was urban, urbane, and decorous. In this context, it is interesting to observe how Ānandavardhana considered the *vyutpatti* of a writer so powerful as to transcend even what is obviously *anaucitya*. His representative case was that of Kālidāsa’s *Kumārasambhavam* where the eighth canto had explicit descriptions of the sexual intercourse of Śiva and Pārvatī: “the impropriety of a great poet, such as his well-known writing of the sexual enjoyment of the highest gods, does not appear as vulgarity because it is concealed by his skill” (Masson-Moussaief 1971).

This pedagogical practice of kaviśikṣā in the domain of *kāvyaśāstra* must also have served as the most effective “disciplining rod” in the Sanskrit literary circles to make creative writers compliant and suppress any deviant representation of character types. As Krishnamoorthy (1964: 168) explains that

it is as much the duty of the budding poet who is gifted with genius to exploit it to his best advantage by undergoing the right kind of discipline. Unbridled imagination may run riot and render the whole work ineffectual. But when drilled by discipline it is sure to produce remarkable results. It was this discipline that the Sanskrit theories set about regulating.

This was a kind of prescriptivism that predetermined the content even before a kāvya was actually composed and discouraged the emergence of alternative ideologies. In other words, even though the name and the local habitation of the characters and the objects changed from one kāvya to the other, their representation was encoded by the laws of propriety.

The profession and practice of kāvya in ancient India thus seem to have foreclosed the possibility of what the hegemonic forces in the society considered to be undesirable from

entering the domain or the production of unacceptable literature. In Althusserian terms, this was a cultural ideological state apparatus that functioned primarily by ideology and secondarily by repression, even if “ultimately, but only ultimately” this was “very attenuated and concealed, even symbolic” (Althusser 1971: 145). In what appears to be a mirroring of the social structure, the architectonics of *kāvyaśāstra* obeyed the laws of *varṇāśrama* in its demarcation of artistic or literary spaces among the genders and castes or classes. While the higher forms of nāṭaka and kāvya occupied the Sanskrit inner chambers of male nobility, the Prākṛitic lower forms were cordoned off to communicate with the man on the street or the woman in the house. The denial of social intermingling precluded the possibility of literary intermingling, warranting that what was meant for the plebeian taste never made its way to the upper strata, thereby preventing any offence to literary sensibilities.

Propriety—the standards of behaviour that are conventionally considered acceptable in any society—can also be viewed in Foucauldian terms as essentially a set of “discourses” governing the actions as well as conditioning of its members, spanning a wide range, from public behaviour to private as well as professional lives. What gets accepted as *aucitya* or propriety in any society is always the interest of the dominant group. By way of putting down the accepted practices in the society, *aucitya* establishes what is called “a regime of truth” or the notion of right and wrong in any society that all its members are expected to adhere to (Foucault 1980: 131).

To put it in contemporary sociological terminology, it functioned as a soft power or “the ability to affect others to obtain preferred outcomes by co-option and attraction rather than coercion” (Nye 2010: 216). By propagating the idea that conformity to *kāvyaśāstra* was necessary to become an accomplished creative writer who could compose excellent kāvya without blemish, the writer was being coerced to voluntarily create literary works in conformity with the dominant social and moral ethos. The concept of *aucitya*, which was central to *kāvyaśāstra*, was a useful and powerful cultural tool that aided in the production of such “law and order” in the literary as well as the extended cultural domains.

The Reader

The same process was employed to mould the subjectivity of the readers of kāvya. To fashion the behaviour and interest of its readers, kāvya aimed to instill in them an aspiration to emulate a law-abiding *uttama* character and to abhor a law-breaking *adhama* character. Bhoja emphasised this point in *Śṅgāraprakāśa* by explaining at length the way in which readers need to read kāvya and self-fashion themselves after the noble characters who abide by the rules of decorum.

Literary texts are supposed to provide moral instruction. In the *Rāmāyaṇa* and other literary works, authors instruct us to act like Rāma and not like Rāvaṇa by showing us the eventual victory of a righteous man and the fall of a morally degenerated one. Since Rāma paid heed to his father’s counsel, he emerged victorious, although he was exiled to the forest; but Rāvaṇa, who was capable of conquering the three worlds, perished because of his desire for another person’s

wife. This is the message regarding prohibition and precept. All the literary works such as *mahākāvya* and *prabandha* are composed in similar fashion. (Bhoja 1963: 479)

Bhoja's conviction of the "uses" of stories is in line with Plato's concept of poetry as a sugar-coated pill that the readers should necessarily fashion themselves after the image of the noble characters portrayed in *kāvya*. While *śāstra*, *itihāsa*, and the Vedas explicitly teach, *kāvya* works at a subliminal level coaxing its readers into modelling themselves upon the characters who conform to the mores and values of the society by showing the ultimate victory of the socially compliant characters and the downfall of those who defy the rules of propriety. Abhinavagupta (1990: 73) in *Lōcana* on Ānandavardhana's *Dhvanyāloka* stated that poetry instructs after the fashion of a wife, Vedas instruct like a master, and history like a friend. The crux of Abhinavagupta's dictum is that the moral instruction performed by *kāvya* is radically different from that of the Vedas, *śāstra*, and *itihāsa*; it naturally follows that to derive optimum "benefit" from these genres, the reader has to approach them in a manner befitting each of them. Bhoja was not the only author to talk about the process of self-fashioning. He was, in fact, reproducing and explicating the idea of his predecessors such as Kuntaka, Viśvanātha, and Mammaṭa who shared the same opinion about the deontic function of *kāvya*.¹¹

This conditioning of the ontology of different character-types and situations in *kāvya* through the theory of *aucitya* was ultimately a way to socially condition the readers of *kāvya*. By consistently portraying the characters who act according to *aucitya* as emerging victorious and those who rebel against it failing, *kāvyaśāstra* preconditioned the *kāvya* in such a way that the readers would aspire to emulate actions that conformed to the society's notion of propriety and abhor the actions of the rebellious ones. Thus, Sanskrit *kāvyaśāstra*, to which the concept of *aucitya* was central, functioned as a metanarrative on the ontology of literature and also turned out to be a mechanism of socio-literary control by prescribing the nature of specific character types and the representation of emotions that appears to be a variant of censorship.

Conclusions

As already mentioned, to term this form of control "censorship" would perhaps entail the error of what Sophia Rosenfeld (2001: 118) warns against—of applying the "intellectual formations of our time" to a bygone age and culture and the

inability to "differentiate our current understanding of the world from that of people who lived long past." However, the discursive practices of *kāvyaśāstra*, although arguably germane only to the upper realms of literature and society and the literate male, appear to have assumed the functions of censoring agents in regulating the creation and consumption of art and literature.

Nonetheless, what makes the literary traditions of premodern India different from other classical traditions is that it came with an inbuilt mechanism whereby the very act of writing involved a range of choices—of genre, diction, style, and target readership, leading to a simultaneity of writing and censoring.¹² The striated nature of writing also implied a similar variegation in the methods of reception; there was no literary product out there for egalitarian public consumption in the literary marketplace. The reader was not the shadowy figure whose tastes had to be speculated upon and anticipated by the writer; contrarily, *kāvyaśāstra* diktats clearly etched out the qualities of the *sahṛdaya* or the ideal reader for the writer. The writer was not reaching out in the dark to an unknown entity whose literary preferences were an enigma, thus avoiding the possibility of misunderstanding, misrecognition, or disapprobation that is often the root of many a censorship controversy. This ensured the synchronisation of ideological as well as artistic views of the author and reader, leading to an almost ideal relationship between the two and rendering any form of protest against the work redundant. Censorship thus became a part of the very framework of literature—a phenomenon observed by Pierre Bourdieu (1991: 138) in the present:

The metaphor of censorship should not mislead: it is the structure of the field itself which governs expression by governing both access to expression and the form of expression, and not some legal proceeding which has been specially adapted to designate and repress the transgression of a kind of linguistic code.

As Bourdieu observes, the internalisation of the "symbolic relations of power" and its attendant codes of behaviour were powerful enough to engender a literature that was sanitised. Measured, cut, and tailored to suit individual tastes, this "designer" literature rarely overstepped its bounds in terms of obscenity, blasphemy, or sedition. Moreover, these inbuilt devices of control, more efficacious than external restrictive forces that tend to incite rebellion, functioned somewhat like a cleansing mechanism in the practice of literary production, helping it to clean up the track it travelled on.

NOTES

- 1 However, art appreciation did not involve the rigour and dedication demanded by abstract philosophical thought, making it more desirable than yogic knowledge in the eyes of theorists.
- 2 The word "censorship" can etymologically be traced to the Latin "cense," which means to estimate or judge. The censor was a magistrate in ancient Rome who was in charge of census, taxation, and the control of public events. This gradually evolved into a supervision of public behaviour whereby they could penalise citizens, including high officials, if their behaviour did not accord with the socially accepted norms. The censor as the judge of public morality and

decency is seen as a natural outcome of this public office.

- 3 Bharata is not the only literary theoretician to talk about the importance of *aucitya* in literature. This is repeatedly mentioned by almost all literary theoreticians. For example, see Ānandavardhana (1990: 3.10–14 c); Kṣemendra (1954: 1.6); Bhānūdatta (2009: 329); Mahimabhaṭṭa (1909: 31); Kuntaka (1997: 1.4); and Mammaṭa (1966: 1.36).
- 4 Bhāmaha (1998: Ch 4); Daṇḍin (1962: Ch 3, 125–87); Vamana (2000: Ch 2); Viśvanātha (2016: Ch 7); Mahimabhaṭṭa (1909: 124–135).
- 5 For example, see the chapter titled "Sāmānyabhinaya" in *Nāyasastra* where Bharata

(1999: XXIV.184–92) talks about eight kinds of heroines. He covers a wide range of areas such as how a hero should behave; how a scene of lovemaking should be depicted; how a heroine should behave towards her guilty lover; how male characters of different character traits such as *catura* (clever), *uttama* (noble), *madhyama* (middling character), *adhama* (degenerate or low-born), and *sambhravrttaka* (a lover who is indifferent to fear and anger) should behave in front of a courtesan; how the friend of a lover should act and so on (see the chapter titled "vaiśikam"). This tendency can be seen throughout Sanskrit poetics. For example, in the second chapter ("prakāśa") of *Daśarīpaka*, Dhanañjaya (1912: Ch 2) talks in detail about

- the qualities of a hero, various categories of hero, the characteristics of the helpers of heroes, antagonists, different kinds of heroines, the qualities that are to be attributed to the side-kicks of a heroine, etc; the second chapter ("prakaraṇa") of Vidyānātha's *Pratāparudriya* is concerned with the representation of heroes and heroines; in Bhoja's (1955; 1963) *Śṛṅgāraprakāśa*, see chapters 21 and 32, which talk about the representation of heroes and heroines; in Bhānu's *Rasamañjarī* (*Bouquet of Rasa*), see chapters 1 and 2, which deal exclusively with the description on *nāyikā* and *nāyaka*; in *Rasataranginī* (*River of Rasa*), Bhānu, in eight chapters, talks about the way in which each emotion has to be represented.
- 6 For a similar account, see *Vakroktijivita* (Kuntaka 1997: 131).
- 7 *Anauctiya* or impropriety is not a *nityadoṣa* or eternal fault. For example, Bhāmaha says that the *doṣa* called *punarukti* is proper in the representation of emotions like fear and jealousy. For example, see Bhāmaha (1998: IV.14). Daṇḍin also holds the same view. In his discussion on *doṣa*, he shows how each *doṣa* (poetic blemish) can turn out to be a *guṇa* (merit). See Daṇḍin (1962: III.125–85).
- 8 See also Bhānūdatta (2009: 249, 330, 333) and Jagannātha (1888: 101–02).
- 9 For more example along this line, see Daṇḍin (1962: I.62–67), Vāmana (2000: II.1.15–20), Ānandavardhana (1990: 3.1. JA and L).
- 10 Vāmana's observation about the importance of a poet conforming to the rules of functioning recoded in śāstras typifies how Sanskrit poetics aimed to standardise the creativity of the poet in line with the notion of propriety. For a detailed reading of this concept, see II.2.24 of Vāmana's (2000) *Kāvyaḷaṅkārasūtravṛtti*.
- 11 See Kuntaka's (1997: 132–33) *Vakroktijivita*; Viśvanātha's (2016: 2) *Sāhityadarpaṇa*; Mammaṭa (1966) in *Kāvyaḷaṅkāśa*.
- 12 A similar preoccupation with appropriateness of theme, style, and readership is evident in *Tolkappiyam*—the text on classical Tamil poetics. It is not discussed here, as it would considerably expand the scope of the paper.

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Indian Railway Health Service

A Model for Universal Health Coverage

FEROZ IKBAL, RUDRANI GHOSH, PRAVEEN BHIDE

The Indian Railway Health Service is one of the largest and most widely spread medical service models in the country. It has, over time, established a health infrastructure network, with 125 hospitals, 586 polyclinics, 92 lock-up dispensaries in its sector, and 686 hospitals recognised in the private sector for medical treatment. It provides comprehensive healthcare not only to railway employees and their families but also retired employees. If the railway health model is redeveloped and recreated to achieve the goal of universal health coverage, it can not only continue to provide robust healthcare facilities but also deliver quality people-centred integrated care.

With the advent of the railways and the construction of railroads in India in the 19th and the early 20th centuries, issues around worker safety and solutions for the same became a common concern. During this period, while the introduction of this miraculous “big technology” continued to amaze rail passengers and employees alike, they often experienced its ghastly dangers as well. For instance, in 1881, there were 30 derailments in the Madras Presidency itself, along with incidents of collisions, fires in trains, defects to train wheels, among others (Jineesh 2021). These grim realities sparked the development of a branch of medical practice termed “railway surgery” during the Victorian era. The railroads also connected different parts of the country and brought a huge number of people to remote, underdeveloped areas that lacked doctors and medical staff, further contributing to the development of these healthcare facilities.

In the “Train Doctors, A Detailed History of Railway Surgeons,” Robert Gillespie (2006) states: “Railway surgeons, nearly forgotten today, once formed the nucleus of a vast and innovative healthcare network.” As the number of railroads increased, railroad physicians and surgeons became essential in the healthcare system. According to Gillespie (2006):

Railroads initially relied on contracts with private doctors along their lines, but the huge number of visits soon made hiring dedicated railroad physicians a practical option. By the early 20th century, every major railroad listed full-time doctors on its payroll.

In a similar vein, the Indian Railways developed and consequently followed a “huge health directorate headed by a director general of Railway Health Service (in Railway Board) with chief medical directors in every zone and chief medical superintendents in every division” (Debroy 2018).

A by-product of the British colonial rule, the Indian Railways, was inaugurated on 16 April 1853, when the first passenger train, carrying around 400 passengers, ran a stretch of just 33 kilometres (km). It was nationalised in 1951 and is now one of the largest railway systems in the world, covering a total route length of 66,687 km, of which 31.85% is double or multi-tracked. According to the Ministry of Railways, with a total of 7,325 stations, as well as 13,169 passenger trains and 8,479 goods trains operating each day, the Indian Railways carries approximately 1,250 million passengers (GoI 2021). The medical vertical of the Indian Railways, that is, the Indian Railway Health Service (IRHS), now renamed the IRHS, is an organised “Group A” service of the Government of India. Recruitment to the cadre is done through the Combined

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Medical Services Examination conducted by the Union Public Service Commission (UPSC).

Overview of the Indian Railway Health Service

In its nascent phase, the IRHS was not uniform—every station had arrangements that differed widely. In April 1954, E Somashekhar, the then chief medical officer of the Southern Railway, proposed a comprehensive plan on the organised expansion of the medical service for the railways. Since then, the railway health service has been continually expanding and developing. The 1962 report of the Railway Accident Enquiry Committee headed by H N Kunzru described the IRHS as “being second to none.”

The functions of the IRHS can be broadly divided into four parts: industrial and occupational health services; disaster management at the time of railway accidents; implementation of national health programmes over the railways; and implementation of food standards, sanitation, and safety over railways.

The IRHS is supposed to conduct a pre-recruitment medical examination of the candidates, and periodic examination of the employees, certification of injuries under the Workmen’s Compensation Act, invalidation of unfit employees, medical certification of employees in cases of sickness, emergency service to sick passengers, and basic awareness. The other major portion of its work includes providing free promotive, preventive, curative, and rehabilitative healthcare to current and retired employees and their dependents. Additionally, it oversees sanitation in the railway colonies and stations, monitors quality of water and food at the stations, and creates awareness about good health practices and vaccinations.

From the bottom-up, at the subdivisional or the peripheral level, the additional chief medical superintendent is in charge; the divisional level is headed by the chief medical superintendent; the zonal level by the chief medical director; and the broad railway level by the executive director. The cadre is headed by a director general, railway health service, who reports to the Rail Bhavan in New Delhi.

IRHS and Universal Health Coverage

“Promoting and protecting health is essential to human welfare and sustained economic and social development” (WHO 2010). “Health for all” is necessary not only for a better quality of life but also for global peace and security. Health is indeed a political affair as governments try to fulfill the expectations of people.

Universal health coverage (UHC) was an approach by the World Health Organization (WHO) to “promote health for all (HFA).” However, this approach did not materialise due to various reasons. In 2005, a resolution was passed by the World Health Assembly urging countries to mandate UHC and HFA as soon as possible. Furthermore, with COVID-19 unravelling the fragile nature of the public healthcare sector as well as profiteering by private hospitals, there is a need and demand for a robust UHC apparatus in the post-pandemic world. So, UHC refers to the concept of equitable access to quality healthcare for all the citizens of the nation, irrespective of their income or

social status, with minimal direct payments, as the government ensures these services.

According to the WHO (nd), UHC means ensuring that all people have access to needed health services (including prevention, promotion, treatment, rehabilitation, and palliation) of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship. Although Sustainable Development Goal (SDG) Target 3.8 is to achieve UHC by 2030, it is a concept rooted way back in the WHO Constitution of 1948, which voices health as an essential human right and commits to ensuring the highest achievable level of health for all. UHC covers three main dimensions: equity, financial risk protection, and quality service (World Bank 2021). The global report on tracking UHC, published by the WHO and World Bank (2017), stated that “an estimated 97 million people were impoverished by healthcare expenditures at the \$1.90-a-day poverty line in 2010, equivalent to 1.4% of the world’s population.”

UHC has been achieved by many of the high-income countries, but time and resources play an important role in securing it. For instance, Germany took nearly 118 years to achieve UHC, while Belgium took 64 years to protect 99% of its population against major and minor health risks. Middle-income countries like Thailand and Mexico that have been able to achieve UHC prove that it is not only the prerogative of rich countries. In fact, certain high-income countries, like the United States, have not been able to achieve UHC (IPH 2012).

In the Indian context, 55 million people were pushed into poverty due to having to fund their own healthcare (Nagarajan 2018). In some cases, the health-seeking behaviour of many is adversely affected to avoid such impoverishment. The healthcare sector is one of the driving forces of employment generation. According to the Commission on Macroeconomics and Health (CMH), illness leads to financial losses for a country. Better health increases productivity and enhances the ability to earn more income, which, in return, potentially permits individuals and societies to afford better nutrition and access to better healthcare. Reaching the “highest attainable standard of health” is critical for human well-being. In lieu of this and many other arguments, the National Health Policy, 2017, in its first objective talks about progressively achieving UHC in the country.

There are two major players—private and public—involved in healthcare provision in India. The basic amenities provided by the public sector are in the form of primary healthcare centres (PHC) and, to a limited extent, secondary and tertiary services. In contrast, private players place an emphasis on providing care through secondary and tertiary facilities. Despite being one of the major outsourcing countries for medical professionals, India still lags behind in terms of quality and accessibility to healthcare. According to the *Lancet’s* Global Burden of Disease Study 2015, in terms of access and quality, India ranks 145 among 195 countries.

In 2011, nearly 31% of the Indian population lived in urban areas, and this proportion is constantly expanding (Lahariya et al 2016). At the same time, India is gradually witnessing a transition in disease epidemiology, with non-communicable diseases contributing nearly “two-thirds of total disease burden.” The health outcomes of the poor living in urban areas are not

any better than those of the rural population. Fragmented health-care service delivery, inadequate financing, poor infrastructure, insufficient coordination among the stakeholders, inadequate health workforce, and high level of inequities and inequalities are some of the key challenges of urban health-care provision (Lahariya et al 2016). These are some of the reasons that policymakers attempted to address through the launch of the National Urban Health Mission (NUHM) as part of the overall National Health Mission (NHM) in 2013, in order to meet the healthcare needs in cities and towns.

This leads to the much-debated question of whether the Indian healthcare system is affordable and accessible to all. A 2012 McKinsey report analyses that “the urban rich access healthcare at a rate that is double that of the rural poor and 50 percent more than the national average” (Gudwani et al 2012). The *Economic Survey 2018–19* reveals that affordability and accessibility to proper healthcare in rural areas is still a matter of concern, as compared to urban areas (GoI 2019). Gaps in infrastructure, lack of doctors, absenteeism, and poor quality of service are some of the reasons why the population chooses private healthcare facilities over the public system, leading to a high out-of-pocket expenditure (OOPE) on health. According to the National Health Accounts Estimates for India, 2015–16, India’s OOPE is very high at 60.6% of total health expenditure, in contrast to the United Kingdom (15.6%) and Thailand (12.5%) (GoI 2018). It was further reported that within a period of 10 years, from 2004 to 2014, the total OOPE per household rose from ₹3,855 to ₹4,955 (Ravi et al 2016).

Ayushman Bharat

In this context, several government health insurance schemes and reforms are aimed at providing comprehensive care to the population and protecting households against catastrophic expenditures. The Ayushman Bharat–Pradhan Mantri Jan Arogya Yojana (AB–PMJAY), which was introduced by the government in March 2018, aims at providing health insurance of ₹5 lakh per year to 10 million vulnerable families, on the basis of the Socio Economic Caste Census of 2011. This would roughly include around 500 million Indians, that is, approximately 40% of the country’s population and is seen as the government’s first step towards achieving UHC (the AB–PMJAY and the path of UHC in India) (Angell et al 2019). The scheme has two components: the first one is to constitute 1,50,000 health and wellness centres (HWC) to cater to the primary healthcare needs of the people; and second is to provide financial protection for secondary and tertiary care to households covered by the scheme. The AB–PMJAY thus aims at empowerment and reasonable commitment towards the achievement of UHC. To augment the growth and quality of healthcare, UHC has become the primary model under the SDGs. The Rashtriya Swastha Bima Yojana (RSBY), the previous insurance-based scheme, also had a similar structure and framework as the AB–PMJAY, but failed to deliver on its primary objective of reducing out-of-pocket health expenditure.

Healthcare is a concept that is interlinked and interconnected to various other factors. Any policy that aims to achieve UHC for a huge populace like India, cannot be carried out in isolation;

various elements come into play in implementing and sustaining a broad policy. Finance is one of the biggest obstacles in achieving UHC. The fact that the states have to bear 40% of the financing, as per the AB–PMJAY, adds to the burden of sourcing funds for states with high poverty levels. This is further exacerbated by the inability states to set their goods and services tax (GST) rates along with the central government’s obligation to keep a check on the fiscal deficit. Another important factor that acts as a hurdle in attaining UHC is the focus on only the “demand aspect” of healthcare. On the supply side, by 2030, India will require 20.7 lakh doctors to reach a doctor population ratio of 1:1,000, which implies the need for a growth rate of 151% registered doctors in the country (Mishra and Kashyap 2020).

The inadequate rural health infrastructure also serves as a major challenge that needs attention. According to the WHO, there are merely nine beds per 10,000 population in India. In India, the delivery of healthcare facilities, being a state subject, rests with the states. Thus, the centre–state dynamics play an important role in its implementation. Corruption is another challenge that might hinder the proper operation and implementation of the scheme. In the case of the AB–PMJAY, there have been cases of fraud and impersonation registered with the police, with a large number of non-beneficiaries availing insurance benefits (Mishra and Kashyap 2020). Further, since the hospitalisation payments are in the form of reimbursements, there have been cases of no or delayed reimbursements adding to the misery of the poor (Mishra and Kashyap 2020).

In addition to these challenges, the scheme also faces issues in terms of integration with various state-run insurance

Table 1: Health Infrastructure in Railways

Zone/PU	Total Number of Dispensaries	Total Number of Hospitals	Total Number of Indoor Beds
Central Railway	30	11	1,184
Eastern Railway	47	8	1,587
East Central Railway	41	6	887
East Coast Railway	29	4	339
Northern Railway	61	9	1,128
North Central railway	28	5	586
North East Railway	26	5	826
North Frontier Railway	47	12	1,022
North Western Railway	32	8	604
Southern Railway	42	10	1,135
South Central Railway	44	4	764
South Eastern Railway	37	7	1,101
South East Central Railway	17	5	245
South Western Railway	20	3	301
Western Railway	56	9	960
West Central Railway	17	7	37
Integral Coach Factory	0	1	101
Rail Coach Factory	0	1	60
Chittaranjan Locomotive Works	5	1	197
Diesel Locomotive Works	1	1	105
Diesel Loco Modernisation Works	0	1	50
Rail Wheel Factory	0	1	46
Research Design and Standards Organization	0	1	30
Metro/Kolkata	0	1	30
Modern Coach Factory/Raebareli	0	1	30
Total	580	122	13,355

Source: CBHI (2019: 267).

programmes, resistance by states, budget allocation, private hospital empanelment, and services covered. Furthermore, the extent to which it can be expanded to the entire population as well as the time it will take for the same is questionable in the recent context.

The fundamental way in which a country can proceed towards UHC is through promoting health equity, which ranges from universal access to health services and health protection. According to the *World Health Report 2008*, “Universal coverage is not, by itself, sufficient to ensure health for all and health equity—inequalities persist in countries with universal or near-universal coverage—but it provides the necessary foundation” (WHO 2008). People desire health facilities to be equitable; however, the root of inequality lies in various social issues that must be tackled via intersectoral and cross-governmental action. To advance health equity, certain actions need to be taken by the health sector, the basis of which lies in the universal coverage, that is, universal access to health services along with social health protection.

The IRHS mission statement is “total patient satisfaction, through humane approach and shared commitment of every single doctor and paramedic, to provide quality healthcare using modern and cost-effective techniques and technologies.” It provides promotive, preventative, curative, and rehabilitative healthcare to all its employees. This type of comprehensive and affordable healthcare for all (the employees) forms the basis of UHC.

The IRHS has a total of 125 railway hospitals, 586 polyclinics, as well as 133 hospitals recognised in the private sector for medical treatment. This adds up to a total of 13,963 beds for a population of 61,58,780, which means one bed for approximately 477 people (Indian Railways nd). This is well above the bed to population ratio of 1:1,000 recommended by the WHO. The Central Bureau of Health Intelligence (CBHI) regulates in-service training for the officers and staff working in various railway health institutions, for capacity building and human resource development in the health sector. For disaster management in the event of railway accidents, it is equipped with different types of accident relief medical equipment (ARME): 172 scale 1 equipment in medical vehicles, as part of accident relief trains; and 325 scale 2 equipment in boxes at specified stations. It has also provided India with some of the most efficient medical technologies. For example, the Southern Railway Headquarters Hospital has some of the best cardiologists and cardiac surgeons in the country, and the first cardiac bypass surgery of India was carried out there in 1975, followed by the corrective transposition of the great arteries surgery in 1979.

Health Infrastructure and Human Resources

In Table 1 (p 57), the railways health infrastructure, as per March 2019, has been dissected into various zones and tabulated (CBHI 2019). The table consists of the various dispensaries and hospitals along with the number of indoor beds allotted to each zone.

From Table 1, it is revealed that the Northern Railways has both the highest number of dispensaries and hospitals, while the Eastern Railways has the highest number of indoor beds. Although the healthcare sector often acts as an employment and revenue generator, it is criticised because of its skewed workforce. Despite human resources in the healthcare sector playing an important role in providing care and services, there is a lack of a qualified workforce in the healthcare system. The current doctor to population ratio in India is 1:1,456, while the nurse to population ratio is 1:475.14. In addition to this, 56.4% of health workers, which is nearly 1.4 million, are not qualified as per the demands of the cadre. This unqualified workforce is usually the first point of contact for the rural population and the poor as far as the ailment is concerned. In contrast, the healthcare professionals of the IRHS are selected through entrance examinations, which justify the quality of these health providers.

In Table 2, the human resources engaged by the railway health sector are

Table 2: Human Resources in Health Sector in Railways

Zone/Production Unit	Doctors Working	Doctors with Speciality Degree/Diploma	Doctors Super Speciality Degree	Dental Surgeons Working	Auxiliary Nurses and Midwives Working	Nurses and Midwives (RN and RM) Working	Pharmacists
Central Railway	199	95	0	4	0	370	140
Eastern Railway	213	119	5	6	0	466	131
East Central Railway	139	73	0	9	0	258	95
East Coast Railway	74	29	0	0	0	134	57
Northern Railway	254	143	0	7	0	179	193
North Central Railway	98	39	0	2	0	118	76
North East Railway	95	46	2	4	0	224	85
North Frontier Railway	173	65	0	10	1	323	126
North Western Railway	117	48	0	4	1	190	107
Southern Railway	207	97	12	3	–	497	161
South East Central Railway	82	31	1	5	1	93	42
South Eastern Railway	152	54	1	2	0	388	91
South Central Railway	156	54	2	1	0	297	126
South Western Railway	65	38	0	2	6	116	56
Western Railway	209	80	2	2	0	328	153
West Central Railway	78	31	0	1	0	145	78
Integral Coach Factory	21	15	1	0	30	0	14
Rail Coach Factor	12	4	0	1	0	30	15
Chittaranjan Locomotive Works	24	8	0	1	1	71	19
Diesel Locomotive Works	14	12	0	0	1	38	16
Diesel Modernization Works	8	3	0	1	0	9	6
Rail Wheel Factory	9	7	0	0	0	12	4
Research Design and Standards Organization	7	4	0	0	11	0	4
Railway Board	3	2	0	0	–	0	0
Modern Coach Factory/Raebareli	13	5	0	1	0	11	8
Metro/Kolkata	9	7	0	1	3	14	5
National Academy of Indian Railways/Vadodara	1	0	0	0	0	0	0
Rail Wheel Plant/Bela	3	–	0	0	0	4	1
Total	2,435	1,109	26	67	55	4,315	1,809

RN = Registered nurse; RM = Registered midwife. Source: CBHI (2019: 232).

tabulated, revealing the entire universe of clinical staff appointed by the Indian Railways. The table indicates that the number of nurses employed is high across facilities. The number of pharmacists across different railway zones has also been tabulated.

An adequately skilled health workforce is required to ensure UHC. The WHO categorised India among “the 57 most severe crisis-facing countries” in terms of availability of human resource for health (Karan et al 2019). The WHO recommends a threshold of 22.8 skilled health professionals per 10,000 population. In this context, the Indian healthcare sector faces a shortage of health workers. There exists a maldistribution of health workers across rural and urban settings, along with an alarmingly large unqualified health workforce. In many places, the first clinical point of contact with the community is these unqualified doctors. In contrast, as stated above, recruitment to the IRHS cadre is carried out by the UPSC, which determines capability and merit, and thus provision of comprehensive care and services.

Financing Railway Health Service

The reports of the Expert Group on Indian Railways (2001) and the Committee for Mobilisation of Resources for Major Railway Projects and Restructuring of Railway Ministry and Railway Board (Debroy et al 2015)—also known as the Rakesh Mohan Committee and Bibek Debroy Committee, respectively—suggested outsourcing of health services, and ceasing to provide the same through the railway medical service. The committee suggested that provision of medical facilities is a “non-core” domain of railways and hence the focus given to health services should be reoriented to strengthen the core railway services instead (Expert Group on Indian Railways 2001).

However, the question arises whether it is viable to cease services at an existing hospital, when there already exists a shortage of hospitals in India. Literature shows that the bed occupancy ratio in a government hospital is around 95%, while the same ratio for railway hospitals is around 62%, thus revealing how railway hospitals are not optimally used (Debroy 2018).

The IRHS is also extremely cost-effective in terms of efficiency and range of health services it provides. According to the Health Directorate of the Railway Board, to cover the wide range of services, the railways spent ₹3,800 crore for medical, health, and other welfare services and ₹1,41,000 crore for ordinary working expenditure in 2018–19. The 2018–19 statistics suggest that the railways spent an average of ₹6,814 per beneficiary in that period (Indian Railways 2021). This, when viewed against outsourcing of health service to the private sector, proves to be more cost-efficient. The inherent issues related to the privatisation of healthcare remain, namely lag in reimbursement, hazard of overprescription of tests by the private hospitals, and failure to cover a wide range of health services.

Table 3 tabulates the performance statistics of the railway hospitals, which consist of multiple factors ranging from total outpatient and inpatient cases, to the number of surgeries conducted, number of new cases, etc, as given by the *Indian Railways Annual Report and Accounts 2018–19* (GOI 2020).

Table 4 charts down the qualitative performances of the railway medical services including certain factors like mortality in hospitals, bed occupancy rate, and the number of patients referred to other hospitals for in-patient department (IPD) treatment. Table 5 tabulates the distinction between sanctioned employees and working employees of the Indian Railway Health Service. Table 6 compares certain other parameters between various healthcare models and railway models—like the scope of the model, the number of persons included annual cost, etc. This data shows the strong and robust system of railway medical services.

Table 3: Performance Statistics, 2018–19

Total outpatient department cases	2,01,64,464
Total indoor cases admitted	5,08,831
Total no of surgeries performed	1,59,264
No of new cases examined for fitness	37,460
No of engineering services candidates examined	548
No of medical services candidates examined	353
No of employees who underwent periodic medical examination	1,13,585
No of sick passengers attended by the railways	60,806
No of railway accident calls attended	1302
No of children immunised	11,845
No of multipurpose health drives conducted	23,372
No of persons examined in the multipurpose health drives above	6,95,532

Source: Gol (2020); Indian Railways (2021).

Table 4: Qualitative Performance

Mortality in hospitals	1,577
Bed occupancy rate	94.63
Average length of stay	7.03
No of patients referred to other hospitals for indoor treatment	1,24,034
Person-days lost due to sickness on railway material consignment	1.28%

Source: Health Directorate, Railway Board.

Table 5: Sanctioned Workers versus Working Employees

	Sanctioned	Working
No of railway doctors	2,711	2,435
No of contractual medical practitioners		396
No of diplomate of national board candidates		164 + 108 = 274
No of honorary visiting specialists		214
Nurses	4,900	4,370
No of paramedical staff	35,158	30,836
Doctor: Beneficiary ratio		1:2,458

Source: CBHI (2019).

Table 6: Other Healthcare Models versus Railway Model

Parameters	Other Healthcare Models	Railway Model
Scope	Insurance schemes	Railways
Persons insured	Individual/family	Family
Amount	10 lakh	No limit
Cost per annum	₹12,000–₹15,000	₹6,800
Beneficiary profile	Mainly for healthy individuals. Loading amount and waiting time for PEDs and 13 chronic diseases.	All inclusive
OPD treatment	Partially not included in base plan (additional rider for OPD)	All inclusive (OPD/IPD—all types of costliest possible treatment)
Preventive and promotive treatment and Immunisation	Not included	All inclusive

Source: Various sources.

Table 7 tabulates the comparison between the National Health Service followed by the United Kingdom and the Railway medical model depending on certain factors like population covered, doctors, nurses, waiting times, and others.

Table 7: NHS versus Railways

Parameter	NHS	Railway Model
Population covered	6.5 crore	65 lakh (one-tenth)
Doctors	1 lakh	2,700
Nurses	3 lakh	4,900
Expenditure per beneficiary/annum	£2,200 (₹2 lakh)	6,814
Waiting time	4 hours for GP	
General Practitioners to specialist 18 weeks	GP 1–2 hours	Specialist 1–3 days

Source: NHS Database; Health Directorate, Railway Board.

Railway Model and Health Expenditure

So, if the railway model is extrapolated in India then the total health expenditure of India will be as follows:

Population covered by IRHS	65 lakh
The total population of India	130 crore (200 times of the population covered)
Expenditure per beneficiary/annum	₹6,814
Therefore, total health expenditure	₹6,814*65*200 lakh = ₹8,85,82,000 lakh
Hence, the excess amount needs to be invested	₹199*65*200 lakh = ₹25,87,000 lakh

Source: Authors' calculations.

Redevelopment of Healthcare System

The Indian Railways has, overtime, established a strong and robust infrastructure of hospitals and health units. With a dedicated clientele and a trained and well-qualified staff, it

provides a comprehensive healthcare system. As seen in this paper, the railways provide an equitable health service that is cost-effective despite covering a wide range of services, and even includes disaster management such as in the event railway accidents. It has uniform policies and rules, with a wide scope for decentralisation. The doctors are recruited by the UPSC, ensuring the highest merit, while nurses and allied staff are selected through Railway Recruitment Boards. Most of the railway hospitals are located in important cities and have good land and infrastructure. Some of the railway hospitals are pioneers in certain specialties, for instance, the railway hospital in Perambur near Chennai was well known for cardiac services, and its doctors have established and worked in some of the best cardiac units in Chennai. During the COVID-19 pandemic, railway coaches served as level 1 COVID-19 care centres and aided in the provision of basic healthcare and quarantine facilities.

As outlined in this paper, railway hospitals in India have a legacy of over a century. The expectations and aspirations of railway employees, their families and pensioners from railway hospitals have also increased over time. Railway hospitals need to bring in professional management to continue to improve services. Furthermore, if the railway medical model is recreated to achieve UHC, it will not only be capable of providing robust healthcare facilities but also deliver quality people-centred integrated care. There is a long pending need to improve and strengthen the railway health service in this direction, and proper investments and innovative technological transformation can successfully address the provision of comprehensive care facilities.

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A New Economics Awaits Us

SANKAR VARMA

This article attempts to look into the concept of othering in the context of urban development. The major motivation for the initiation of this article came after reading Dipankar Gupta's book review titled "A New Sociology Awaits Us" (*EPW*, 26 December 2020), which mainly concentrated on urban affairs.

Dipankar Gupta's book review titled "A New Sociology Awaits Us" (*EPW*, 26 December 2020) created multiple entry points for re-examining the idea of "urban space" or "urban affair." The title of the current article is framed out of the motivation majorly drawn from Gupta's review. Therefore, this particular article can also be considered as a commentary of a review that looks forward to motivate and bring about more entry points into the academic discourse on the theme of urban affairs. Hence, naturally, this article is not an attempt to take any one article in particular, rather it is an attempt to motivate and stimulate a larger imaginary that seems to have taken a convenient detour towards what can be called a process of "othering."

The process of othering can be seen as a routine and systematic dispossession of a few classes of people who are based on certain determinants, washed away from the daily affairs of economic and social discourses. This is political as much as a manufacturing of something can be called an "ultraconservative backlash." Conservative thinking arises when political rule orchestrates people to behave in a definite and determinate way. The urban centre for that matter has mastered this imagination of how a portrayal of this renewed "self" needs to be acted, for and against the "other." It is in this context that the fitting review of Gupta (2020) on the book *Classes of Labour: Work and Life in a Central Indian Steel Town* written by Jonathan P Parry comes as a pedestal in my motivation of looking into "A New Economics that Awaits Us."

In a modern world that seems to be conveniently able to accept anything for a "face value" without looking much into what it intrinsically encompasses, it is absolutely true that yes "A New Sociology Awaits Us." However, with the rising "economic determinism" mastered

with the "ultraconservative backlash," it also needs to be said that a new economic awaits us too. Let us delve into these two concepts of what is this "economic determinism" and an "ultraconservative backlash" in order to politically motivate the apolitical times that we are living. A realisation of the apolitical manifestations perhaps might also help the urban affairs to recoup itself from an idea of growth fetish and othering to an idea of humanity endured and lived by all.

Economic Determinism and Othering

The primary idea of economic determinism achieves its material root through resorting into an idea of what Marx called the "primitive accumulation of capital." This seems to have been on the rise in the urban affairs primarily because the rising bourgeoisie needs the power of the state, and uses it to "regulate" wages, that is, to force them into the limits suitable for making a profit, to lengthen the working day, and to keep the worker at their normal level of dependence. This is an essential part of so-called primitive accumulation (Marx 1887). In a time when the role of the state and financial oligarchies are coalesced into one, it becomes all the more imperative that primitive accumulation is here to stay. It is in this arrival of a confirmation, the idea of economic determinism also gets its functional success. So, the premise in which one can function is not to resort one's self into an economic determinism that attempts to emanate a feeling of

I am happy with the wealth that I hold and I have a luxury apartment in the heart of the city, so I do not mind even if the crony capitalists continue to accumulate wealth out of exploiting others who are far away from me.

Sadly, it is the above imaginary that has been well perfected, which dominates the majority of the economic discourses in urban affairs. This thinking sows the seed of what an urban imaginary resorts to which is nothing but "othering." In other words, when the urban development materialises through

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construction of information technology parks, bourgeoisie environmentalism, and other means to consume the urban spaces, automatically a class of people gets othered and a new class of perfect and supposedly cultured urban identities begins to be formed. These classes of people, who are othered, are those who fall below the ambit of capital designations, as imagined and emanated through the idea of urban. They may range from the local *pan wallahs*, non-capitalist enterprises, peasants, artisans, labourers and most importantly people

who do not see the nature as the “other.” However, the person who resorts to this process of othering continues to conveniently adjust as per the modernist discourses. This seems to be primarily because of a rising apolitical, at the same time, asocial reduction of a household into a gated community—a community of individuals who feel they are the society in other words. Though there are a lot of entry points that have been kick-started by this discussion, elongating this further may distract us away from the main issue. After all, incomplete

discussions are the one that provides a means to a larger discussion, as provocations prove vital in instances of these kinds. Urban development for that matter has forever remained a perfect and not so provocative field in terms of its social engineering.

The above-mentioned is the terrible primary problem that needs to be confronted in the urban affairs. The purpose of swaraj, self-rule, as per Gandhi was to emancipate Indians from its illusory promises. But today it seems that it is these illusory promises that the urban

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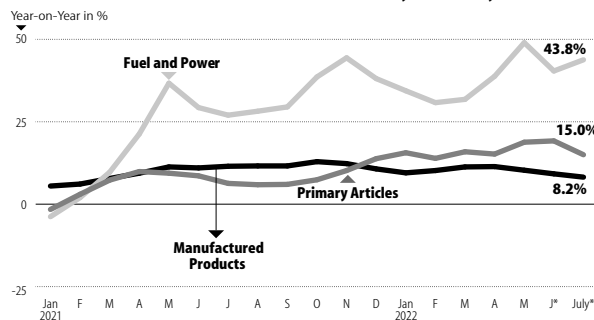
Wholesale Price Index

The year-on-year (y-o-y) WPI-based inflation rate rose to 13.9% in July 2022 from 11.6% reported a year ago, but was lower than 15.2% a month ago. The index for primary articles increased by 15.0% against 6.3% a year ago, but was lower than 19.2% a month ago. The rate of inflation of food articles rose to 10.8% from 0.1% a year ago, but was lower than 14.4% a month ago. The index for fuel and power was up by 43.8% against 27.0% a year ago but that for manufactured products decreased by 8.2% compared to 11.5% a year ago.

Consumer Price Index

The CPI-inflation rate increased to 6.7% in July 2022 from 5.6% registered a year ago, but was lower than 7.0% a month ago. The consumer food price index rose by 6.8% against 4.0% a year ago but lower than 7.8% a month ago. The CPI-rural inflation rate increased to 6.8% from 5.5% a year ago and the urban inflation to 6.5% from 5.8%. According to Labour Bureau data, the CPI for agricultural labourers (CPI-AL) increased to 6.4% in June 2022 from 3.8% a year ago and the CPI for industrial workers (CPI-IW) to 6.2% from 5.6%.

Movement of WPI-Inflation Rate January 2021–July 2022



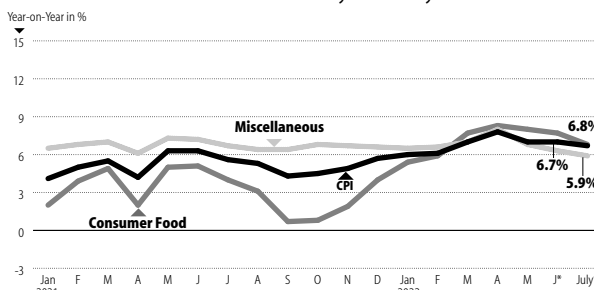
*Data is provisional; Base: 2011–12=100.

Trends in WPI and Its Components July 2022* (%)

	Weights	Over Month	Over Year	Financial Year (Averages)		
				2019–20	2020–21	2021–22
All commodities	100	-0.1	13.9	1.7	1.3	13.0
Primary articles	22.6	-2.7	15.0	6.8	1.7	10.2
Food articles	15.3	-2.6	10.8	8.4	3.2	4.1
Fuel and power	13.2	6.6	43.8	-1.8	-8.0	32.5
Manufactured products	64.2	-0.4	8.2	0.3	2.8	11.1

*Data is provisional; Base: 2011–12=100. Source: Ministry of Commerce and Industry.

Movement of CPI Inflation January 2021–July 2022



*Data is provisional. Source: National Statistical Office (NSO), Ministry of Statistics and Programme Implementation, Base: 2012=100.

CPI: Rural and Urban July 2022* (%)

	Latest Month Index	Over Month	Over Year	Financial Year (Avgs)	
				2020–21	2021–22
CPI Combined	173.4	0.463	6.71	6.16	5.51
Rural (2012=100)	174.3	0.403	6.80	5.94	5.43
Urban (2012=100)	172.3	0.525	6.49	6.45	5.58

CPI: Occupation-wise#

Industrial workers (2016=100)	129.2	0.2	6.2	5.0	5.1
Agricultural labourers (1986–87=100)	1125.0	0.5	6.4	5.5	4.0

Provisional; # June. Source: NSO (rural and urban); Labour Bureau (IW and AL).

Foreign Trade

The trade deficit widened to \$30.0 bn in July 2022 from \$10.63 bn reported a year ago. Exports increased by 2.1% to \$36.3 bn from \$35.5 bn registered a year ago and imports by 43.6% to \$66.3 bn from \$46.2 bn. Oil imports stood higher at \$21.1 bn and non-oil at \$45.1 bn from \$12.4 bn and \$33.7 bn, respectively. During April–July 2022–23, the cumulative exports increased by 20.1% to \$157.4 from \$131.1 bn during the corresponding period last year and imports by 48.1% to \$256.4 bn from \$173.1 bn.

Index of Eight Core Industries

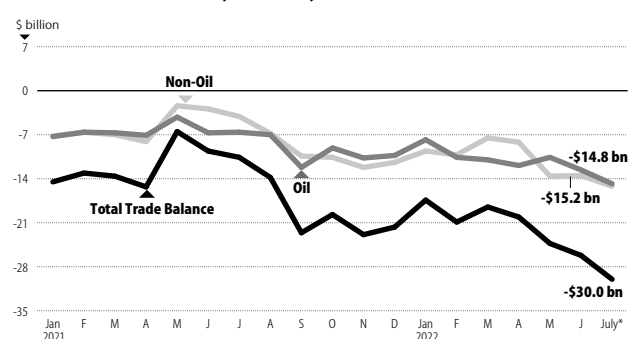
The index of eight core industries increased by 12.7% in June 2022 compared to 9.4% reported a year ago. Production of coal increased by 31.1%, petroleum refinery products by 15.1%, cement by 19.4%, electricity generation by 15.5% and fertilisers by 8.2% against their respective growth rates of 7.4%, 2.4%, 7.5%, 8.2% and 2.0%. Growth in the steel segment slowed down to 3.3% from 25.2% a year ago and in natural gas to 1.2% from 20.6% and growth in the crude oil segment stood at -1.7% compared to -1.8%.

Merchandise Trade July 2022

	July 2022 (\$ bn)	Over Month (%)	Over Year (%)	April–July (2022–23 over 2021–22) (%)
Exports	36.3	-9.6	2.1	20.1
Imports	66.3	-0.1	43.6	48.1
Trade balance	-30.0	14.6	182.2	135.4

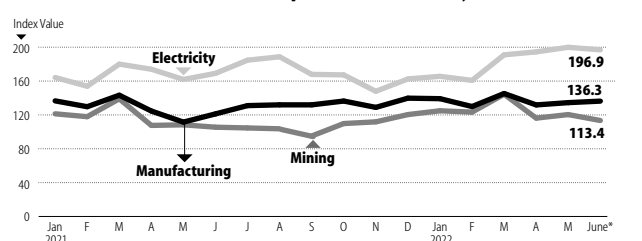
Data is provisional. Source: Ministry of Commerce and Industry.

Trade Balance January 2021–July 2022



Oil refers to crude petroleum and petroleum products, while non-oil refers to all other commodities.

Movement of Index Values of Components of IIP January 2021–June 2022



* June 2022 are quick estimates; Base: 2011–12=100.

Index for Eight Core Industries June 2022* (%)

	Weights	Over Month	Over Year	Financial Year (Avgs) in %	
				2020–21	2021–22
Infrastructure industries	40.27@	-4.1	12.7	-6.4	10.4
Coal	10.3	-6.1	31.1	-1.9	8.5
Crude oil	9.0	-4.3	-1.7	-5.2	-2.6
Natural gas	6.9	-3.5	1.2	-8.2	19.2
Petroleum refinery products	28.0	-5.1	15.1	-11.2	8.9
Fertilisers	2.6	0.4	8.2	1.7	0.7
Steel	17.9	-7.7	3.3	-8.7	16.9
Cement	5.4	6.9	19.4	-10.8	20.8
Electricity	19.9	-2.3	15.5	-0.5	8.0

(Base: 2011–12=100); *Data is provisional; @ The revised eight core industries have a combined weight of 40.27% in the IIP. Source: Ministry of Commerce and Industry.

Comprehensive current economic statistics with regular weekly updates are available at: <http://www.epwrf.in/currentstat.aspx>.

■ India's Quarterly Estimates of Final Expenditures on GDP

₹ Crore | At 2011-12 Prices

	2019-20				2020-21				2021-22			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Private final consumption expenditure	2009312 (6.7)	2004859 (5.7)	2157091 (5.6)	2088442 (1.2)	1532170 (-23.7)	1839177 (-8.3)	2169131 (0.6)	2223256 (6.5)	1753400 (14.4)	2031624 (10.5)	2330425 (7.4)	2262405 (1.8)
Government final consumption expenditure	377951 (-2.0)	418372 (5.5)	345786 (4.8)	342163 (8.0)	429241 (13.6)	322530 (-22.9)	344609 (-0.3)	441224 (29.0)	408789 (-4.8)	351138 (8.9)	354889 (3.0)	462316 (4.8)
Gross fixed capital formation	1197344 (10.0)	1093791 (0.9)	1135023 (-0.1)	1184862 (0.6)	654479 (-45.3)	1044735 (-4.5)	1128117 (-0.6)	1303947 (10.1)	1063543 (62.5)	1197408 (14.6)	1152014 (2.1)	1371090 (5.1)
Change in stocks	27081 (-57.5)	26951 (-59.0)	26803 (-59.0)	28169 (-59.5)	-1995 (-107.4)	-3048 (-111.3)	-3040 (-111.7)	-3490 (-112.4)	43907 (-2301.0)	47531 (-1659.6)	45050 (-1581.7)	51450 (-1574.2)
Valueables	43887 (-5.5)	44242 (-12.3)	37119 (-16.4)	39279 (-22.1)	3790 (-91.4)	52356 (18.3)	50917 (37.2)	100918 (156.9)	23329 (515.6)	142228 (171.7)	77891 (53.0)	51597 (-48.9)
Net Trade (Export-Import)	-174738	-132914	-100588	-99736	6189	-28433	-119730	-167215	-96309	-174012	-227446	-205582
Exports	703240 (2.4)	705236 (2.0)	706562 (5.5)	698570 (9.1)	523643 (-25.5)	659753 (-6.4)	645694 (-8.6)	724592 (3.7)	737146 (40.8)	795994 (20.7)	794990 (23.1)	846715 (16.9)
Less Imports	877979 (9.4)	838150 (-1.9)	807150 (-7.0)	798306 (-2.4)	517454 (-41.1)	688186 (-17.9)	765424 (-5.2)	891807 (11.7)	833455 (61.1)	970006 (41.0)	1022436 (33.6)	1052297 (18.0)
Discrepancies	68121 (107.6)	90923 (94.6)	-819 (-76.5)	237901 (155.3)	79724 (17.0)	83612 (-8.0)	56217 (-6963.7)	19085 (-92.0)	49775 (-37.6)	-6738 (-108.1)	89056 (58.4)	84749 (344.1)
Gross domestic product (GDP)	3548958 (4.9)	3546223 (4.2)	3599696 (3.1)	3821081 (2.7)	2703598 (-23.8)	3310930 (-6.6)	3626220 (0.7)	3917725 (2.5)	3246434 (20.1)	3589178 (8.4)	3821878 (5.4)	4078025 (4.1)

■ India's Overall Balance of Payments (Net): Quarterly

Item	2020-21 (\$ mn)				2021-22 (\$ mn)				2020-21 (₹ bn)				2021-22 (₹ bn)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current account	19058	15250	-2235	-8161	6559	-9734	-22167	-13424	1446 [3.7]	1134 [2.4]	-165 [-0.3]	-595 [-1.0]	484 [0.9]	-721 [-1.3]	-1661 [-2.6]	-1010 [-1.5]
Merchandise	-10990	-14816	-34602	-41745	-30715	-44511	-59750	-54483	-834	-1102	-2552	-3043	-2266	-3298	-4477	-4099
Invisibles	30048	30066	32367	33583	37275	34777	37583	41059	2280	2236	2387	2448	2750	2577	2816	3089
Services	20758	21086	23237	23485	25808	25779	27809	28319	1575	1568	1714	1712	1904	1895	2084	2130
of which: Software services	20774	22021	23470	23475	25136	26781	28356	29266	1576	1638	1731	1711	1854	1984	2125	2202
Transfers	16974	18386	19258	18842	19013	18991	21312	21132	1288	1368	1420	1373	1403	1407	1597	1590
of which: Private	17217	18619	19494	19108	19222	19212	21447	21350	1306	1385	1438	1393	1418	1423	1607	1606
Income	-7685	-9405	-10128	-8743	-7547	-9792	-11538	-8392	-583	-700	-747	-637	-557	-726	-865	-631
Capital account	1376	15943	34141	12261	25392	39622	22500	-1707	104 [0.3]	1186 [2.5]	2518 [4.6]	894 [1.6]	1873 [3.7]	2936 [5.2]	1686 [2.7]	-128 [-0.2]
of which: Foreign investment	114	31422	38597	9959	11956	12575	-1283	-1439	9	2337	2847	726	882	932	-96	-108
Overall balance	19846	31568	32483	3389	31870	31189	465	-16024	1506 [3.9]	2348 [5.0]	2396 [4.4]	247 [0.4]	2351 [4.6]	2311 [4.1]	35 [0.1]	-1205 [-1.8]

Figures in square brackets are percentage to GDP.

■ Foreign Exchange Reserves

Excluding gold but including revaluation effects	5 August 2022		6 August 2021		31 March 2022		Over Month		Over Year		Financial Year So Far		Variation		Financial Year		
	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022-23	2022-23	2017-18	2018-19	2019-20	2020-21	
	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore	₹ crore
₹ crore	4183546	4297240	4237617		-67105	-113693			362208	-54071			353270	68050	668976	590416	302585
\$ mn	527677	579283	559615		-8424	-51606			41104	-31937			53217	-14168.4	56831.4	94535	21435

■ Monetary Aggregates

₹ Crore	Outstanding 2022	Over Month	Over Year	Financial Year So Far		Variation		Financial Year	
				2020-21	2021-22	2018-19	2019-20	2020-21	
				2020-21	2021-22	2018-19	2019-20	2020-21	
Money supply (M ₂) as on 29 July	21032376	-5067 (-0.0)	1659600 (8.6)	528198 (2.8)	538647 (2.6)	1367897 (8.9)	2044615 (12.2)	1649151 (8.8)	
Components									
Currency with public	3064388	-14547 (-0.5)	225254 (7.9)	87306 (3.2)	28699 (0.9)	297539 (14.5)	402079 (17.1)	283861 (10.3)	
Demand deposits	2183148	-6803 (-0.3)	212447 (10.8)	-24419 (-1.2)	-29844 (-1.3)	111179 (6.8)	257428 (14.8)	217872 (10.9)	
Time deposits	15727596	18106 (0.1)	1210753 (8.3)	466565 (3.3)	540992 (3.6)	952412 (8.1)	1376262 (10.9)	1136326 (8.1)	
Other deposits with RBI	57244	-1823 (-3.1)	11147 (24.2)	-1254 (-2.6)	-1200 (-2.1)	6765 (21.3)	8844 (23.0)	11093 (23.4)	
Sources									
Net bank credit to government	6408664	7028 (0.1)	353205 (5.8)	205086 (3.5)	-68965 (-1.1)	571872 (13.0)	890011 (17.9)	627256 (10.7)	
Bank credit to commercial sector	13116662	-12452 (-0.1)	1602149 (13.9)	-43898 (-0.4)	500141 (4.0)	655925 (6.3)	519767 (4.7)	1058110 (9.2)	
Net foreign exchange assets	4805020	-94377 (-1.9)	-133882 (-2.7)	360055 (7.9)	-49043 (-1.0)	730196 (23.8)	777811 (20.5)	275216 (6.0)	
Banking sector's net non-monetary liabilities	3326421	-94577 (-2.8)	163198 (5.2)	-6744 (-0.2)	-156075 (-4.5)	590557 (24.2)	143540 (4.7)	312529 (9.9)	
Reserve money as on 5 August	4110790	16008 (0.4)	393287 (10.6)	117522 (3.3)	41903 (1.0)	259224 (9.4)	570275 (18.8)	468906 (13.0)	
Components									
Currency in circulation	3194996	-29977 (-0.9)	241014 (8.2)	100219 (3.5)	61280 (2.0)	310541 (14.5)	406451 (16.6)	279953 (9.8)	
Bankers' deposits with RBI	856403	43222 (5.3)	139086 (19.4)	18450 (2.6)	-20323 (-2.3)	-58081 (-9.6)	154979 (28.5)	177859 (25.4)	
Other deposits with RBI	59391	2763 (4.9)	13187 (28.5)	-1147 (-2.4)	947 (1.6)	6765 (21.3)	8844 (23.0)	11093 (23.4)	
Sources									
Net RBI credit to government	1193043	66356 (5.9)	39064 (3.4)	54294 (4.9)	-257554 (-17.8)	190240 (23.7)	107494 (10.8)	350912 (31.9)	
of which: Centre	1181794	72688 (6.6)	35024 (3.1)	50425 (4.6)	-267179 (-18.4)	189267 (23.6)	106605 (10.8)	352628 (32.2)	
RBI credit to banks & commercial sector	-160516	71770 (-30.9)	530200 (-76.8)	-321358 (87.0)	383186 (-70.5)	-353744 (-231.4)	-168465 (0.0)	-174344 (0.0)	
Net foreign exchange assets of RBI	4386000	-58499 (-1.3)	-202631 (-4.4)	389231 (9.3)	-56479 (-1.3)	741814 (26.0)	608998 (17.0)	243079 (5.8)	
Govt's currency liabilities to the public	29811	160 (0.6)	1487 (4.9)	211 (0.8)	598 (2.1)	461 (1.8)	565 (2.1)	1100 (4.1)	
Net non-monetary liabilities of RBI	1336348	63779 (5.0)	-25167 (-1.8)	4856 (0.4)	27848 (2.1)	319547 (30.2)	-21683 (-1.6)	-48159 (-3.5)	

■ Scheduled Commercial Banks' Indicators (₹ Crore)

(As on 29 July)	Outstanding 2022	Over Month	Over Year	Financial Year So Far		Variation		Financial Year	
				2019-20	2020-21	2017-18	2018-19	2019-20	
				2019-20	2020-21	2017-18	2018-19	2019-20	
Aggregate deposits	16971699	10501 (0.1)	1422604 (9.1)	435583 (2.9)	506386 (3.1)	993721 (7.9)	1546019 (11.4)	1351801 (8.9)	
Demand	2041974	-8290 (-0.4)	207009 (11.3)	-26228 (-1.4)	-30772 (-1.5)	105716 (7.0)	244190 (15.1)	211553 (11.4)	
Time	14929725	18792 (0.1)	1215594 (8.9)	461811 (3.5)	537159 (3.7)	888005 (8.0)	1301831 (10.9)	1140246 (8.6)	
Cash in hand	107661	-3288 (-3.0)	11508 (12.0)	5406 (6.0)	21735 (25.3)	12385 (16.5)	3486 (4.0)	-4821 (-5.3)	
Balance with RBI	834457	40740 (5.1)	159460 (23.6)	132304 (24.4)	151019 (22.1)	-29521 (-5.2)	6507 (1.2)	140745 (25.9)	
Investments	5014297	54637 (1.1)	370109 (8.0)	181662 (4.1)	285349 (6.0)	366292 (10.8)	715177 (19.1)	266422 (6.0)	
of which: Government securities	5013472	54615 (1.1)	370654 (8.0)	181187 (4.1)	285294 (6.0)	359695 (10.6)	722934 (19.3)	266547 (6.0)	
Bank credit	12369224	-12034 (-0.1)	1568713 (14.5)	-38942 (-0.4)	477910 (4.0)	496916 (5.1)	570814 (5.6)	1051861 (9.7)	
of which: Non-food credit	12336880	-6962 (-0.1)	1613846 (15.1)	-55165 (-0.5)	500576 (4.2)	486763 (5.0)	561324 (5.5)	1058105 (9.8)	

■ Capital Markets

	12 August 2022	Month Ago	Year Ago	Financial Year So Far		2021-22		End of Financial Year		
				Trough	Peak	Trough	Peak	2018-19	2019-20	2020-21
				2018-19	2019-20	2018-19	2019-20	2020-21		
S&P BSE SENSEX (Base: 1978-79=100)	59463 (8.4)	53887	54844 (42.9)	51360	60612	47706	61766	39714 (12.4)	29816 (-21.8)	49009 (63.7)
S&P BSE-100 (Base: 1983-84=100)	18078 (8.7)	16401	16636 (45.6)	15563	18327	14482	18800	12044 (9.1)	8693 (-25.2)	14689 (68.2)
S&P BSE-200 (1989-90=100)	7716 (9.2)	7008	7067 (48.1)	6603	7790	6136	8025	4987 (7.1)	3614 (-25.1)	6211 (71.1)
CNX Nifty-50 (Base: 3 Nov 1995=1000)	17698 (8.2)	16058	16364 (44.7)	15294	18053	14296	18477	11923 (11.1)	8660 (-24.3)	14507 (67.9)
CNX Nifty-500	15141 (8.4)	13779	13972 (50.5)	12951	15391	12024	15886	9805 (5.3)	7003 (-26.3)	12149 (73.7)

Figures in brackets are percentage variations over the specified or over the comparable period of the previous year. | (-) = not relevant | - = not available | NS = new series | PE = provisional estimates

■ Comprehensive current economic statistics with regular weekly updates are available at: <http://www.epwrf.in/currentstat.aspx>

Secondary Market Transactions in Government Securities and the Forex Market—Weeks Ending 5 and 12 August 2022

1 Settlement Volume of Government Securities (G-Sec) Transactions (Amount in ₹ Crore)

Week Ended	12 August 2022		5 August 2022		13 August 2021		2022-23*		2021-22**	
	Number of Trades	Volume	Number of Trades	Volume	Number of Trades	Volume	Number of Trades	Volume	Number of Trades	Volume
Outright	15420	188239	21008	252339	12150	180515	300796	3838608	212072	3307069
Repo	3483	552980	4086	636912	3032	410318	70057	11524455	53943	9119732
TREP	5230	1516298	6389	1804746	5243	1399106	118528	33942675	96413	25628357
Total	24133	2257516	31483	2693997	20425	1989939	489381	49305739	362428	38055157
Daily Avg Outright	3855	47060	4202	50468	2430	36103	3342	42651	2383	37158
Daily Avg Repo	697	110596	681	106152	505	68386	701	115245	550	93058
Daily Avg TREP	1046	303260	1065	300791	874	233184	1185	339427	974	258872

2 Instrument-wise Outright and Repo Details (Amount in ₹ Crore)

	Outright	Repo	Outright	Repo	Outright	Repo
Central Government	155867	375126	209034	427926	121640	315873
State Government	10279	104435	14761	125159	12541	61593
Treasury Bills	22093	73418	28545	83827	46333	32852
Total	188239	552980	252339	636912	180515	410318

3 Top 5 Traded Central Govt Dated Securities (12 August 2022)

Security Description	Trades	Value (₹ Crore)	% Value to Total
6.54% GS 2032	8282	77608	49.79
7.54% GS 2036	2551	24384	15.64
7.38% GS 2027	1190	17564	11.27
7.10% GS 2029	376	5693	3.65
5.74% GS 2026	224	2630	1.69

4 Category-wise Buying/Selling Activity (Market Share %) (12 August 2022)

Category	Outright		Reverse Repo		TREP Lending	TREP Borrowing	NDS-Call Lending	NDS-Call Borrowing	Forex	
	Buy Side	Sell Side	Buy Side	Sell Side					Buy Side	Sell Side
Cooperative Banks	3.54	3.04	0.05	0.63	0.11	0.53	51.45**	0.94**	0.24	0.28
Financial Institutions	0.05	0.27	0.19	0.00	3.13	4.23	-	-	0.40	0.31
Foreign Banks	23.40	21.63	30.79	23.65	1.53	3.85	3.60	2.18	43.85	43.80
Insurance Companies	4.14	2.72	2.93	0.00	11.55	0.01	-	-	-	-
Mutual Funds	13.04	8.93	47.55	0.19	72.61	0.34	-	-	-	-
Others	4.63	4.56	0.13	0.58	10.20	2.79	-	-	-	-
Primary Dealers	11.94	21.49	2.40	35.33	0.00	3.93	0.00	73.38	-	-
Private Sector Banks	24.31	24.70	10.68	30.29	0.26	14.99	21.91	13.70	26.81	27.46
Public Sector Banks	14.94	12.66	5.27	9.33	0.60	69.34	23.04	9.81	28.70	28.14

5 Trading Platform Analysis—Trading Value (Amount in ₹ Crore) (12 August 2022)

Week Ended	OTC			NDS-OM			Brokered Deals		
	Number of Trades	Volume	Market Share (%)	Number of Trades	Volume	Market Share (%)	Number of Trades	Volume	Market Share (%)
Central Government	717	23061	18.03	11524	104867	81.97	75	3788	2.96
State Government	253	4852	56.69	457	3708	43.31	58	1695	19.81
Treasury Bills	136	16352	72.17	306	6306	27.83	43	4790	21.14
Total	1106	44266	27.81	12287	114881	72.19	176	10274	6.46

6 Settlement Volume of Forex Segment

Segment	12 August 2022		5 August 2022		13 August 2021		2022-23*		2021-22**	
	Number of Deals	Volume (\$ mn)	Number of Deals	Volume (\$ mn)	Number of Deals	Volume (\$ mn)	Number of Deals	Volume (\$ mn)	Number of Deals	Volume (\$ mn)
Cash	1500	20795	1876	29450	1378	22116	32030	490454	28596	420168
Tom	1804	23700	2674	43438	1894	30085	41870	590615	39968	570382
Spot	76116	71333	98902	105620	69052	66045	1588714	1744879	1244737	1368184
Forward	858	10884	484	5885	652	6331	71344	734888	55646	606021
Total	80278	126711	103936	184393	72976	124576	1733958	3560837	1368947	2964754
Average	20070	31678	20787	36879	14595	24915	19931	40929	15735	34078

7 Tenor-wise Forward Trades

Tenor	12 August 2022			5 August 2022			13 August 2021		
	Number of Deals	Value (\$ mn)	% to Total Value	Number of Deals	Value (\$ mn)	% to Total Value	Number of Deals	Value (\$ mn)	% to Total Value
< 30 days	130	4729	43	78	2988	51	53	1368	22
> 30 days & ≤ 90 days	132	3063	28	72	1353	23	117	2387	38
> 90 days & ≤ 180 days	102	1789	16	42	583	10	69	1077	17
> 180 days & ≤ 365 days	58	1242	11	42	762	13	54	1145	18
> 1 year	7	62	1	8	200	3	33	354	6
Total	429	10884	100	242	5885	100	326	6331	100

* Data pertain to 1 April 2022–12 August 2022; ** Data pertain to 1 April 2021–13 August 2021.

(i) Tables 1 to 5 relate to Securities Segment, and (ii) Tables 6 and 7 relate to Forex Segment.

Source: Clearing Corporation of India Limited (CCL).

Sameeksha Trust

An Appeal

For more than half a century, the **Economic and Political Weekly (EPW)** has been a major presence in India's intellectual space. It has been a crucible for ideas and a forum for debate, which has created a journal of international repute that has become a virtual institution. EPW provides a multi-disciplinary platform for academics and practitioners, researchers and students, as well as concerned citizens, for critical engagement with economy, polity and society in contemporary India.

It has always been a struggle to ensure EPW's financial viability and sustainability. The resource constraint has been exacerbated by our conscious decision to abstain from receiving direct government grants and donations from abroad, to preserve the autonomy and independence of the journal.

With the Covid-19 pandemic and the consequent nationwide lockdown, EPW is now experiencing an unexpected and drastic drop in revenue from retail sales (as most of the newsstands are still closed) and advertisement income (as advertising has contracted sharply with the crisis in the economy), resulting in an acute financial crisis. This is not unique. Most of India's print media organizations are going through a similar predicament leading to closures, large-scale retrenchment of staff, and salary-cuts.

It was our endeavour not to resort to such drastic measures in EPW. In the first two months of the lockdown, full salaries were paid to all EPW staff. The Editor and his team adopted drastic austerity measures and cut expenditure to the bone. In spite of this, there was a large operational deficit every month, which could aggravate further if the problems associated with the lockdown persist. If this excess of expenditure over income had gone unchecked, a stage would have come when we would no longer be able to keep EPW alive.

The situation became so critical in the month of June 2020 that there was no other choice but to implement a temporary measure of reducing staff salaries from July 2020. The financial situation of EPW is being reviewed periodically and the salary cut is being reduced gradually. The situation, however, still continues to look grim.

In these difficult and troubled times, an institution of EPW's stature and credibility is needed more than ever before. Well-wishers of EPW have been reaching out and urging us to do whatever necessary to ensure EPW's sustainability.

We therefore appeal to the community of readers, contributors, subscribers and well-wishers of EPW to come forward and make donations to the extent each one can so as to ensure that EPW continues to perform its historic role. This is urgent. And it is of utmost importance. We hope you will join us in supporting EPW.

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