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Geographies of Inequality

Unbundling rural and urban into subcategories along a continuum ranging from metro cities to the most remote rural areas, helps reveal the different nature and speed of development in separate kinds of locations. page 57

'Professor of Practice' Scheme

Considering the exclusionary nature of Indian social stratification and its outcomes on education and entrepreneurship, the scheme will exclusively benefit those belonging to the privileged communities. page 10

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EPWRF India Time Series

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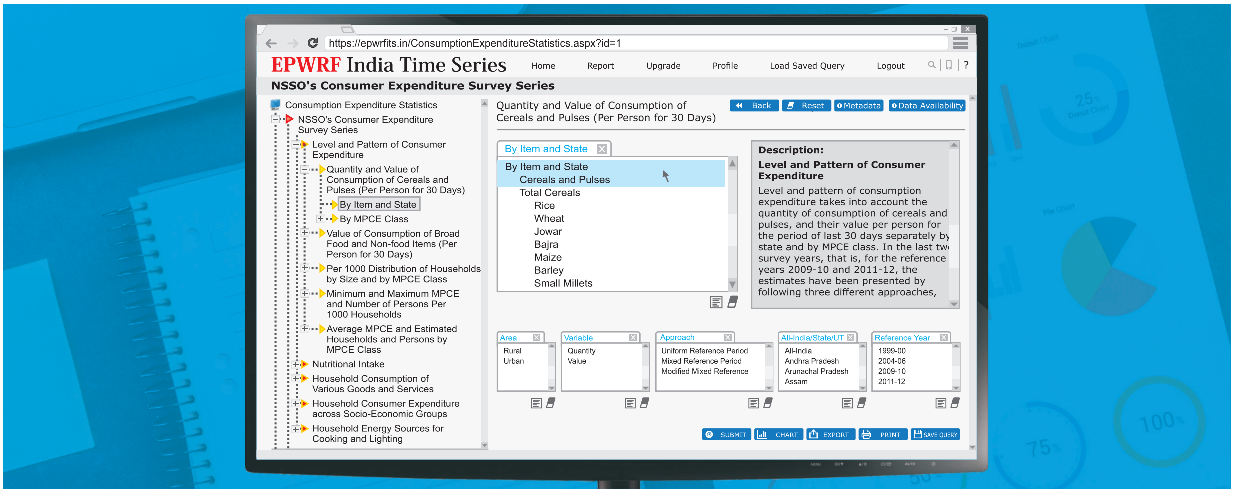

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- Employment Statistics*#
- Labour Statistics*
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Economic&PoliticalWEEKLY

'Professor of Practice'

10 In light of the National Education Policy 2020, this article critically examines the implications of the "professor of practice" scheme. ***— D R Gautam, C M Malish & Kedilezo Kikhi***

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33 The Census 2011 estimated the presence of 450 million internal migrants in India, which is an increase of 45% over the Census 2001. As a corollary, the domestic flow of remittances has seen a significant rise. This paper aims to understand how financial support affects the perceived economic well-being of households in rural India. ***— Shreya Nupur, Meghna Dutta***

Revenue Shortfall and GST Compensation

40 The states that will suffer the maximum revenue impact if the expected goods and services tax collections do not improve in the coming years, are identified in this paper. The pre- and post-GST buoyancy of the states is compared to understand the possible outcome. The likely revenue requirement for servicing the accumulated special market borrowings of the union government is assessed. ***— Sacchidananda Mukherjee***

Industrial Pollution and Health Damage

47 The Singrauli region produces 16% of coal and 13% of thermal power in India. Various state and non-state institutions have examined the consequent regional pollution. This paper attempts to document the health damage to the regional population. A survey of 4,383 families in southern Sonbhadra district yielded data on select health impacts, which were then mapped to correlate to the industrial gaseous emissions. ***— Vasudha A***

Tracing the Geographies of Inequality in India

57 Spatial, that is, geographic inequalities are growing in India and other countries. Some countries are better provided with services, infrastructure, and earning opportunities. The urban–rural difference is salient to these distinctions. However, locating the geographies of advantage and disadvantage requires going below the level of states and beyond the binary of urban–rural distinction. ***— Anirudh Krishna, Rajesh Shukla***

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Regulating Cryptocurrencies

The International Monetary Fund (IMF) recently called for more regulation of cryptocurrencies, arguing that their rapid growth and potential impact on the global financial system make it imperative for governments to take action. While some may view this as an overreach of government authority, I believe that increased regulation is necessary to ensure the stability of the financial system and protect consumers.

The IMF's concerns are not unfounded. Cryptocurrencies have grown tremendously in popularity over the past decade, with Bitcoin alone reaching a market capitalisation of over $1 trillion at its peak. While some view cryptocurrencies as a way to decentralise financial systems and provide greater privacy, others have raised concerns about their potential for facilitating money laundering, terrorism financing, and other illicit activities.

Furthermore, the lack of regulation has contributed to the high volatility of cryptocurrencies, which can pose risks for both investors and the broader financial system. Cryptocurrencies are not backed by any government or financial institution, which means their value can fluctuate wildly based on market demand alone. This volatility makes cryptocurrencies a risky investment and can contribute to financial instability if large numbers of investors suddenly sell their holdings.

In addition to these risks, there are also concerns about the environmental impact of cryptocurrencies. The energy consumption required for mining cryptocurrencies is significant, and the carbon footprint of the industry is estimated to be comparable to that of a small country. As the world increasingly grapples with the urgent need to address climate change, the environmental impact of cryptocurrencies is becoming harder to ignore.

Given these concerns, it is clear that some level of regulation is necessary to address the risks associated with cryptocurrencies. However, it is important to note that not all regulation is created equal. Heavy-handed regulation that stifles innovation and drives the industry underground is not the answer. Instead, we need a smart, targeted regulation that addresses the specific risks associated with cryptocurrencies while still allowing for innovation and growth in the industry.

One potential area for regulation is anti-money laundering (AML) and counter-terrorism financing (CTF) laws. Currently, these laws are often not well-suited to the unique characteristics of cryptocurrencies, which can make it difficult to track and prevent illicit activities. By updating AML and CTF laws to better address the risks posed by cryptocurrencies, governments can help ensure that the industry is not used as a tool for illicit activities.

Another area for regulation is investor protection. Cryptocurrencies are a new and complex asset class, and many investors may not fully understand the risks involved. By requiring greater disclosure and transparency from cryptocurrency exchanges and other market participants, governments can help ensure that investors have the information they need to make informed decisions.

Lastly, there is the issue of environmental impact. While it may be difficult to regulate the energy consumption of the entire cryptocurrency industry, governments could require greater transparency from cryptocurrency miners and exchanges about their energy usage and carbon footprint. This could help incentivise the industry to move towards more sustainable practices.

Of course, there are also risks associated with increased regulation. One concern is that heavy-handed regulation could stifle innovation and drive the industry underground, making it even harder to regulate and control. Additionally, there is a risk that poorly designed regulations could actually increase the

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risks associated with cryptocurrencies by driving them into unregulated or offshore markets.

However, these risks can be mitigated through smart, targeted regulation that takes into account the unique characteristics of cryptocurrencies. By working closely with industry participants and other stakeholders, governments can develop regulations that address the risks associated with cryptocurrencies while still allowing for innovation and growth.

In conclusion, the IMF's call for more regulation of cryptocurrencies is not an overreach of government authority, but rather a necessary step to ensure the stability of the financial system and protect consumers. While there are certainly risks associated with increased regulation, these can be mitigated through a smart, targeted regulation that addresses the specific risks posed by cryptocurrencies.

I believe that the increased regulation of cryptocurrencies is a necessary step to ensure the stability of the financial system and protect consumers, and it can be achieved through collaboration between governments and industry participants.

Anndy Lian
SINGAPORE

Impact of ChatGPT on Education

ChatGPT is a language model developed by OpenAI that has been trained on a vast corpus of text, enabling it to generate human-like responses based on the inputs it receives. ChatGPT has been gaining popularity in the field of education, as it has the potential to transform it by providing students with personalised and real-time support and making information more accessible.

One of the most significant benefits of ChatGPT in education is personalised learning. With the help of ChatGPT, students can receive an education that is tailored to their specific needs, rather than a one-size-fits-all approach. Unlike traditional methods of learning, ChatGPT provides instant feedback to students as they are learning. This allows students to make adjustments to their learning approach in real time, which can lead to a faster and more effective learning experience. ChatGPT is available 24/7, which means students can access educational resources and receive assistance at any time. Students can learn at their own pace, which can lead to a more relaxed and stress-free learning experience. On the other hand, ChatGPT's automated grading capabilities streamline the education process by providing accurate and consistent grading while freeing up teachers' time.

While chatbots like ChatGPT have the potential to be used as a tool in education, it is essential to consider the negative effects that come with it. The use of chatbots in education can result in the lack of human interaction and personal engagement. Chatbots, despite their sophisticated language capabilities, lack the emotional intelligence to understand and respond to students' feelings, which can lead to a lack of motivation and engagement. Chatbots, although trained with vast amounts of data, can still make mistakes and provide inaccurate and biased information. This can have severe consequences for students' education and their understanding of the subject matter. Moreover, the use of ChatGPT requires access to student work and personal information, which further raises concerns about privacy and data security.

The use of chatbots in education can also result in a lack of creativity and imagination. Education should encourage students to think outside the box, to be innovative, and to come up with new ideas. Chatbots, on the other hand, can only provide pre-programmed answers and responses, which can limit students' creativity and imagination. Relying on chatbots in education can also lead to a decrease in critical thinking skills. Chatbots can provide ready-made answers, but they cannot teach students how to think critically and solve problems independently. The use of chatbots can create a sense of dependence on technology, which can be problematic in the long run. Students should be encouraged to develop independent learning skills and to take responsibility for their own education. However, relying solely on chatbots for answers and information can foster a sense of dependency, which can hinder the development of essential life skills.

Moreover, the use of chatbots in education can also lead to a reduction in teacher workloads, but it can also lead to job losses for teachers. As technology advances and chatbots become more prevalent in the classroom, there may be a reduced need for human teachers. This can result in job losses and financial insecurity for educators, which can have a negative impact on the education sector as a whole. Teachers bring a wealth of experience, knowledge, and personal connections to the classroom, and their presence is essential for students' success.

To maximise the benefits and minimise the drawbacks of using ChatGPT in education, it is important to strike a balance between utilising technology and preserving the human element in the learning process. This can be achieved by incorporating human teachers in the process, regularly monitoring and updating the information provided by chatbots, and encouraging students to develop independent learning skills. The technology should be used in conjunction with human interaction and assessment, rather than as a replacement, to maximise its positive impact on education.

Hemendra Singh
SONIPAT

EPW Engage

The following articles have been published in the past week in the *EPW* Engage section (www.epw.in/engage).

(1) Alternative Approaches to Insurance and Risk Management — *Umar Farooq Patel, Chandrahauns R Chavan*

(2) Is Market-driven Education Reproducing Alienation? Re-reading Marx on Human Nature — *Radhika Jagtap*

(3) Harichand Thakur and the Chandals: Godhood and Socio-religious Reforms in 19th century Bengal — *Arpita Pandey*

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Caught in the Middle

A rebound in inflation and a slower growth has sharply shrunk the policy space for monetary interventions.

The deceleration in consumer prices to within the upper tolerance threshold of 6% in the last two months of 2022 came as a major relief. Consumer prices had persistently overshot the threshold in the first 10 months of 2022 forcing the Monetary Policy Committee (MPC) of the Reserve Bank of India to hike up repo rates six times since May 2022. While the first four hikes till September 2022 pushed up policy rates from 40 to 50 basis points, each of the last two interventions in December 2022 and February 2023 were more moderate, with the rate hikes tapering down to 35 and 25 basis points, respectively. Overall, the repo rate had been pushed up by 250 basis points from 4% in May 2022 to 6.5% in February 2023.

One reason why the policy rate hikes had been tapered off is the sustained fear of a negative impact on growth and the increasing resistance to the withdrawal of accommodative stance in the MPC. A subtle positive reassessment of the macroeconomic scenario also helped. At its last meeting in early February, the MPC noted that the capacity utilisation in manufacturing had slowly moved up above its long-term average. It also pointed to the positive trends in the purchasing manager's indices of manufacturing and services, the improving agriculture prospects, and strong credit offtake in the economy to buttress this view.

The MPC noted that the high-frequency indicators signalled strong economic activity in the third and fourth quarters of 2022–23. It was also optimistic that the consumer price inflation will edge down to 5.7% in the fourth quarter of 2022–23 and hold down annual consumer price inflation at 6.5%, a percentage higher than in 2021–22. The central bank hopes that the calibrated repo rate hikes will help anchor inflation expectations, soften core inflation, and simultaneously improve medium-term growth prospects.

But this stance of the central bank was soon rebuffed when consumer price inflation rebounded back to 6.5% in January, pushing it above the targeted range and nullifying most of the gains of the previous two months. The primary reason why consumer price inflation bounced back in January was the increase in food prices, which rose by 1.7 percentage points over the previous month to 5.9%.

However, the extensive pickup of the food prices and the structure of inflation significantly enhance upside risks. The figures show that the highest increases were in spices, followed by cereals and products, eggs, milk, meat and fish, oil and fats, and fruits. Similarly, the increase in prices of core inflation components like clothing, footwear, household goods and services, and personal care products remain too high for comfort with the numbers hovering close to double-digit levels. This has pushed up core inflation to 6.2% in January. In fact, a closer analysis showed that price pressures emanated more from the core group rather than from the food and beverages segment. Moreover, the pass-through of input costs to output prices would only sustain core inflation.

To add to the problems, the third quarter gross domestic product (GDP) numbers, released at the end of February, show that growth has further shrunk to 4.4%. While agriculture growth has moved up to 3.7%, the highest in the last three quarters, the industrial growth has hit a low of 2.4%, mainly due to the slump in manufacturing. In fact, the manufacturing sector growth has even shrunk in three of the last four quarters. Similarly, the services sector growth has also sharply slumped to 6%, which is just about one-third the levels in the first quarter of the year. The worst hit were public administration and defence where the continued spending constraints slowed down the growth to just 2%.

A major reason for this substantial slowdown has been the steady weakening of demand. The numbers for the last three years show that both private and public sector consumption have steadily weakened and dented consumption demand. In the three years between 2020–21 and 2022–23, private consumption spending has moved down by almost a percentage point to 60.5% of the GDP. Similarly, government consumption spending has also fallen by more than a percentage point to 10.5%.

One major reason for the slowdown in private consumption spending is the shift in terms of trade against agriculture in the last two years. The GDP deflators show that the double-digit inflation in non-food prices was significantly higher than that of agriculture prices. Though the gap has narrowed down, the shift in terms of trade will still have a negative impact on rural incomes and consumer demand. The consumption demand was also dented by the sharp cuts in the relative size of the union government budget spending and the shift towards capital and infrastructure spending. The procyclical fiscal policies have certainly failed to countenance the overall slump in the economy.

Given these constraints, there are limits to the efficacy of monetary policy. Calibrating the rate hikes to contain inflation while simultaneously ensuring cheaper credit to reboot growth is a difficult task even in the best of times. While a good rabi crop may help contain the increase in food prices, the persisting core inflation will continue to be a major worry. Similarly, the sustained decline in manufacturing growth is a more substantial issue that requires a major rehaul of the fiscal policies. This is more so because the falling exports will exacerbate the impact of the slump in domestic demand. So, the immediate need is to substantially boost overall demand by significantly hiking up government spending. Clearly, the monetary policy is ill-equipped to singularly do the heavy lifting.

One Year of the Russia–Ukraine War

In the midst of fixed narratives promoted by the conflicting sides, the Chinese position on peace is notable.

***Anuradha Chenoy writes*:**

As the Russia–Ukraine conflict enters a second year, in the midst of the fears of escalation and speeches by the Presidents of the United States (US) and the Russian Federation, the Chinese have released three position papers on pathways to peace and on US hegemony that provide important insights on their international vision.

Joe Biden's "anniversary" speech in Kiev reinforced the American–European coalition behind the Ukraine proxy war framed as one for democracy versus autocracy, where the West will prevail. This speech echoes the US National Security Strategy which promises to "out compete China and constrain Russia." The subtext is that the US continues its mission to regain global hegemony, weaken Russia and encircle China, as the Ukraine proxy war continues.

Vladimir Putin's address to the Russian Federal Assembly dealt with domestic and international issues. He said it was the West that started this war, and for years Russia made continuous efforts for peace and reconciliation that were rejected. Western leaders signed the Minsk Agreements and later claimed these were subterfuges to help Ukraine rearm in the midst of civil war and North Atlantic Treaty Organization (NATO) expansion. In sum, Russia no longer trusts the West.

Strategically, Putin stated that as long as Western long-range missiles are supplied to Ukraine, the Russians would push Ukraine back from Russia's borders and would target long-range missiles in Ukraine. Russia is "suspending its membership in the New START Treaty." Thus, Russia is prepared for a long war and will not step back from its stated positions. Sadly, the carefully crafted disarmament process stands shattered.

In this context, two documents from China are of particular importance. A position paper laying a pathway to political settlement for the "Ukraine crises" commits to respecting national sovereignty, points to the necessity of "abandoning" the Cold War mentality, and underlines the need of a European security structure that avoids bloc confrontation based on exclusive and competitive security. It calls for a ceasefire, an end to hostilities, resumption of peace talks, steps to reduce strategic nuclear risks, proposes steps for resolving humanitarian crises and advocates steps for normalising trade, maintaining grain supplies and industrial safety. It reiterates the traditional Chinese opposition to unilateral sanctions.

A second Chinese position paper on "US Hegemony and Its Perils," released in February 2023, sharply attacks the US hegemonic foreign policies. This paper alleges that the US foreign policy "playbook" intervenes in the domestic politics of states through colour revolutions, instigates regional disputes, directly launches wars, clings to Cold War strategies, continually abuses export controls, forces unilateral sanctions, is selective in the use of international laws, and imposes rules to suit themselves under a "rules-based order." This paper then proceeds to provide documentary evidence for each of these claims. It concludes that US ambitions for hegemony are "unilateral, egoistic, and regressive practices" that are now drawing criticism and opposition from the international community. China opposes all forms of hegemonism and rejects intervention in others' internal affairs. A third Chinese paper, referred to by President Xi Jinping, talks about the "Global Security Initiative" calling for "common security" that is comprehensive, cooperative and sustainable as opposed to competitive security.

These three papers show a new clarity and assertiveness of Chinese geostrategic positions and indicate that China will play a stronger role in global geopolitics. These papers state that China: (i) is committed to the construction of a multipolar world and will oppose hegemonic politics. (ii) Its geostrategic positions are very similar to those of the Russians. (iii) It believes that the Russian position on the proxy war in Ukraine and NATO is correct and it will back the Russians. Note, for example, Chinese foreign minister Wang Yi's earlier statement: "China will firmly support the Russian side, with the leadership of President Putin" to overcome the difficulties and "reinforce the status of Russia as a major power." (iv) The Chinese see themselves in a position of strength to challenge US hegemonism—economically, technically, politically and possibly militarily—though they would like a peaceful and plural global environment.

The collective West has rejected the Chinese approach on peace and hegemony, but is clearly worried about the new geopolitical assertions that unambiguously back Russia. India has taken a tough stand by abstaining again from a Ukraine and US drafted resolution in the United Nations General Assembly asking for peace through Russian withdrawal. India argued that a process excluding one side could never lead to a credible and meaningful resolution of the conflict.

Clearly, after one year of the Ukraine conflict, parallel narratives, perceptions and positions between conflicting sides and promoted by the backers of this proxy war remain the same. What is new is that China has asserted its geostrategic plans and clearly stated how they would like to see this war end. In this horrible melee, the voice of sanity is coming from India and independent non-aligned countries.

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Unscrupulous Inequality

Can inequality be unscrupulous? If yes, what are the conditions within which such a form could become bearable, if not absolutely justifiable? It is imperative to address the first question with reference to scrupulous forms of inequality. Arguably, scrupulous inequality becomes bearable on the grounds that they are the result of rational competition; for example, competition that happens across opportunity fields such as the job market. Competition which incentivises the participation of the working population is rational because it is organised on the basis of business ethics, rules, and norms that are transparent. The function of competition is to create equality for a few and inequality for many. Inequality also looks bearable because it is productive, in the sense that it offers opportunities for people to become equal with others; for example, Dalits can aspire to become capitalists. Put differently, the market function of such inequality is to justify equality.

However, competitive electoral politics gives rise to unscrupulous, if not, fraudulent forms of inequality. Fraudulent inequality has become a source to incentivise a significant number of young people to become active in instrumental politics. For example, one can notice some of the "young activists" who are instrumentally used by the caste/community leaders in order to favour the wealthy parties of which the former have been regular beneficiaries. In fact, manipulative politics operates on a conundrum. Parties with abundant resources tend to manipulate the candidate or the community/caste/identity leaders, who, in turn, manipulate cultural symbols so as to assure transfer of caste and community votes to the party that has been in the business of electoral manipulation. This mutual manipulation between the wealthy parties and the caste and community leaders who use the electoral framework to necessarily produce unscrupulous forms of inequality is the result of a crafted collaboration between the manipulator and the manipulable. In a general sense, within the framework of competitive inequality, the objective truth of inequality becomes discernible to a subjective description of affluence that can be openly ranked globally or locally. Some of those who, for the purposes of accumulation of profit and wealth, have maintained some degree of contractual transparency between the employees and the employers seem to render the inequality gap bearable. Although it may not bring ethical comfort and moral confidence to the former, it could be used to publicly display their affluence.

However, even this bare description of affluence is not possible, because most of these upwardly mobile caste and community leaders feel guilty of the fact that they cannot openly brandish the visible markers of their affluence. Of course, there are some amazing exceptions to this secret norm. Those who hide from reality cannot invent them in terms of being role models. The means and ways that they use for achieving an almost meteoric rise in their personal and family assets do not realise that their strategy and calculations are replete with secret deals, and since these lack transparency in political practices and authenticity in emancipatory purposes, these tend to produce forms of unscrupulous inequality. Hence, their surreptitious ways of aping the general standards of equality are less authentic and do not motivate these secret climbers to display their affluence publicly. They, like the Dalit autobiography, have no moral ground to narrativise the struggle for self-respect that necessarily proceeds ahead without any secret deals and manipulation. They lack the strength of an authentic autobiography of a Dalit writer whose self stands on the ground of sacrifice. It is, however, an open secret that their assets, which are kept hidden from the public eye, are no more a secret to the parties that require such assets for electoral manipulation of the leaders who, once upon a time, came from an allegedly "humble" background. Electoral politics has established a dubious connection between unscrupulous inequality and instrumental politics that is driven by wealthy political parties.

Decent forms of incentives can make sense only in the context where there are decent opportunities available. Since the sphere of such opportunities is shrinking, the only field that is open to the young is to try their fortune in money-driven electoral politics. On a more charitable account, one may then argue that people are involuntarily drawn to politics that produces unscrupulous inequality because they have no other option available.

Inequality produced by a competitive logic of the market stands on different forms of exploitation—toiling masses bartering away their freedom is a subtle form of such exploitation. It is in this sense that inequality becomes bearable. Perhaps, it is in this context that inequality looks scrupulous to liberal or even libertarian economists. Asset inequality, produced through electoral politics, however, acquires an unscrupulous character. Unscrupulous inequality converts the toiling masses into trolling ones. It is based on emotional and cultural manipulation by caste and community leaders who have been able to sustain cultural emotionalism among the voters, which, in some crucial contexts, plays a decisive role in helping the party that is in the business of manipulation.

Gopalguru

FROM 50 YEARS AGO

ECONOMIC AND POLITICAL WEEKLY

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Suppressing the African Worker

Africanist

Strikes by black workers are illegal in South Africa. The apartheid prescribed penalty for black strikers is a fine of £500, 3 years imprisonment, or both. But though apartheid legislation sanctions black oppression, this in itself cannot contain the black working class. Strikes, principally for increased wages, have become more numerous in the last five years. This, in spite of the fact that the racist, imperialist controlled government of South Africa has murdered, imprisoned, banned and exiled black strikers. […]

The most recent strikes in Durban has been taken very seriously by the government. More than 16,000 black municipal workers joined black factory workers to stage a massive strike. More than 100 industrial establishments came to a standstill. The government reacted characteristically; it called out its reserve forces from Pretoria to bring law and order to Durban. This was the beginning of a massive repression. Hundreds of strikers have been imprisoned and hundreds more lie wounded in hospitals.

'Professor of Practice'
The Need to Add Social Viability in the Indian Context

D R GAUTAM, C M MALISH, KEDILEZO KIKHI

In light of the National Education Policy, which outwardly emphasises on equity and inclusion, this article critically examines the implication of the professor of practice scheme as announced by the University Grants Commission draft guidelines. It is argued that a dogmatic implementation of such a policy holds the potential of keeping the system of Indian higher education exclusionary. There is a need to contextualise such a policy in the Indian social milieu to make it socially viable in the wake of exclusionary consequences.

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To promote skill-based learning, as highlighted in the new National Education Policy (NEP) 2022, the University Grants Commission (UGC) announced the recruitment policy for "professor of practice" in the higher education institutions (HEIs). When looked at from the perspective of disadvantaged sections, the caste-equality proposition in the policy may have disastrous consequences for the learning outcomes as well as the existing social disparity. This is so because "equality" as an outcome critically depends upon the existing equity framework under which the policy will become operational. In the long run, instead of being a harbinger of social as well as economic change in the country, the higher education system in India will end up becoming instrumental in promoting the status quo through such policies.

The Scheme

As per the announcement by the UGC (2022), there will be a recruitment of professors of practice in Indian HEIs with the core academic purpose of skilful learning outcomes such as designing and developing courses, delivering lectures, workshops, seminars, encouraging students in innovation, entrepreneurship, etc. These shall be experts (of practice) in any area of knowledge, that is, non-restrictive to engineering, science, technology, entrepreneurship, commerce, social sciences, media, literature, fine arts, civil services, armed forces, legal profession, and public administration. Eligibility includes "those who have proven expertise in their specific profession or role with at least 15 years of service/experience, preferably at a senior level." Interestingly, a person belonging to the teaching fraternity shall not be eligible for consideration. At any point, the total number of professors of practice should not exceed 10% of a university's sanctioned posts. The selection shall be done by a committee consisting of two senior professors and one "eminent external member." The academic executive council or statutory bodies of the HEI will decide the selection of professors of practice based on the selection committee's recommendations. Notably (by virtue of being an expert), they are exempted from any formal education, specific (teaching) qualification such as UGC-National Eligibility Test/PhD, publications, etc, which are the general eligibility criteria for a faculty member in a HEI. It may be important to mention that surpassing the exclusive nature of the recruitment for the non-teaching community, the eligibility of the probable professors of practice is not barred by the existing age limit of 60 years. This implies, albeit indirectly, the potential for providing an extra innings for those who have formally "superannuated" from any government set-up, excluding Parliament.

The tenure of appointment will be initially for a year which, after a review, shall be extended to three years and, in exceptional cases, to four years. Regarding the funding pattern, three options shall be available, the first being sponsorship by the parent industry/organisation. The second and third options, respectively, include remuneration by the university/HEI from their own funds (exclusive of the grants received from the UGC), and service on an honorary basis.

Perspective of the Socially Disadvantaged

Keeping the "virtue" aspect constant, this article shall try to analyse our major concern that relates to "equality" in the otherwise unequal Indian social milieu. In the context of our discussion, it is desirable to present information reflecting the existing social inequalities in an economic sense. Of several indicators, ownership of wealth and entrepreneurship has been adopted here to estimate the economic situation of social status in

India. Caste-wise data on economic ownership of wealth in the country largely reiterates the existing social hierarchy. A study for the World Inequality Database supervised by the French economist Thomas Piketty revealed an unaltered historical inequality in wealth distribution on caste lines in India (Bharti 2018). Intra-caste distribution of the richest class in India reveals that 50% Brahmins, 31% Rajputs, 44% Baniyas, and 57% Kayasthas fall in the richest class, while only 5% of Scheduled Tribes (STs), 10% Scheduled Castes (SCs), 16% Other Backward Classes (OBCs), and 17% Muslims belong to the richest category (Bharti 2018). Another crucial indicator that may help us arrive at the existing scenario of (senior level) experts pertains to existing caste differences in entrepreneurship in India. From the analysis of economic censuses of India conducted in 1990, 1998, and 2005, it is revealed that SCs and STs respectively owned only 9.8% and 3.7% of all the existing enterprises in 2005. In fact, over time (from 1990 to 2005), the share got marginally increased for STs while remaining unchanged for SCs. Here too, the characteristic features of the enterprises owned by the SCs and STs are marked by their smaller size and category of informal or unorganised sector. This implies that there is less likelihood for them (SCs and STs) to access an institutional source of finance (Varshney et al 2013). Apart from the economically disadvantaged position, a major reason that could provide a probable explanation for this scenario comes from the lack of social networks among the SCs and STs.

Those who lie at the higher pedestal of the social ladder (by the vertical system of social stratification) generally hold the possession or access to fungible capital, thanks to the generational gains they have had with the operation of the social system in India. Over time, there is a hierarchical possession and accumulation of economic capital among the privileged communities. There is a direct bearing of economic capital on access and dominance towards productive resources. However, in the Indian context, there is an overbearing and conspicuous influence of "social capital" which is independently significant. Empirically, such capital in India has had a congregation around caste. In fact, over time, caste as a form of "social capital" has pronounced its economic role (Vaidyanathan 2019).

An instrumental role of "social capital" as an analytical category towards the formation of "human capital" is universally established through research. Human capital, in simpler terms, broadly include the skills and knowledge that allow individuals to perform economically valuable labour (Becker 1962; Coleman 1988 cited in Hasan and Bagde 2013). Apart from this general role of social capital, its specific role in the formation of academic merit has been revealed in empirical findings where it is found that the social capital does play a role in the academic output at educational institutions (Rogosic and Baranovic 2016) both at school (Papapolydorou nd) as well as at HEIs (Hasan and Bagde 2013). Also, there one cannot deny that social capital has acted as an aide to sustain social reproduction in our society (Bourdieu 1986 cited in Rogosic and Baranovic 2016). In the wake of available information about the existing socio-economic inequality in India, it is no more a hypothesis to be put for any litmus test to conclude that the varied form of capital bears a direct relationship with the formation of "merit" which gradually leads to "expertise" (for knowledge and vocation).

Bleak chances of a person belonging to the disadvantaged communities becoming an "expert" could also be gauged when two critical aspects are taken for analysis. The first one is the sociology of Indian higher education which highlights the relatively low share of SCs and STs, especially at the topmost level and in those with higher market returns (Gautam 2015; Sundaram 2006) owing to a huge number of dropouts at higher level of education (Pandey and Pandey 2018). Another often cited reason for such a scenario is the lack of (individual) "merit" (Deshpande 2006; Jodhka and Manor 2017). However, empirically, the issue of merit and its formations has been proved to be a misnomer (Ghosh 2006; Ilaiah 2006; Gautam 2022; Sukumar 2022). Other equally critical aspect is the (relatively) low share of SC–ST graduates in elite labour markets. It is noteworthy to mention here that employment (at senior and remunerative level) is a significant criterion to distinguish a person to be eligible for this post. Several research studies reveal the existence of discrimination on caste and religion in the labour market (Thorat and Attewell 2007; Chakravarty and Somanathan 2008; Pandey and Pandey 2018).

Considering the exclusionary nature of Indian social stratification and its outcomes on education and entrepreneurship, it will not be an exaggeration to say that the professors of practice will accrue exclusive benefits to those belonging to the privileged communities.

Challenges to Learning Outcomes

Taking this analysis to a deeper level, there appears a stark challenge for the equality of learning outcome of the students for whom this whole exercise is probably being proposed. "Quality" in learning is the most emphatic challenge for Indian higher education system. This is significantly important for skill-based higher education due to associated market returns. There are several theoretical approaches towards a practical attainment of the skills in an education process. "Communities of practice" is one of the few methods that aims to transcend the formal hierarchical boundaries of teaching–learning and holds the focus on situated learning theory where legitimate peripheral partnerships are built

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while striving towards the common aim of knowing how to practise a specified skill. The "community" is built through the common learning aims among the practitioners for a particular skill. The "community of practice" model has been utilised here to achieve successful organisational gains in varied institutional set-ups. When contextualised to teaching–learning outcomes in a higher educational institution, it implies initiation as a legitimate peripheral participant (by the teacher) of the specified skill, which will gradually, over the specified time or duration of the course lead to the induction of the same as practitioners. In a way, communities of practice can promote learning (Morton 2012) under a conducive learning environment among those involved in the process, that is, teachers and pupils. Contrary to the normative outcomes, there are instances of discrimination-based differential treatment towards those from disadvantaged communities such as SCs and STs (Deshpande 2006; *EPW* Editorial 2007; Gautam 2015; Kumar 2016a; Kumar 2016b; Kumbhar 2021; Sukumar 2022; Malish 2022). There can be ineffective results for the communities of practice in a higher educational institution in the wake of an exclusive environment where such communities could turn dysfunctional, counterproductive, or harmful (Arthur 2016).

Aligning the argument of building communities of practice and making it a rationale for building the proposition of the recruitment policy of professors of practice require scrutiny. There appears to be two challenges in this proposition. The first challenge emerges from the lack of immunity from the narrow comprehension of the social reality of India by these "experts" who essentially may not hold an understanding of the pedagogy that entails an idea of differential learning on the count of social advantages/disadvantages. Therefore, it may not be completely unwise to assume a continuation of general (stereotypical) comprehension about the structure of Indian society by those selected under professors of practice. The second associated challenge is the belittling impact of the self-image and associated learning on students enrolled in HEIs as part of the affirmative action policies.

Therefore, without a provision of affirmative action in this policy, the obvious result could not be far from the social reproduction of existing social realities in India, where those belonging to the disadvantaged categories continue to remain marginalised. All the available statistics about social groups in possession of capital and expertise in any area of knowledge with economic returns is a sheer reflection of the general scenario of social privilege and impoverishment.

Apart from this, unfavourable consequences emerging out of interpretation of the term "eminent" (as provided in the guidelines) cannot be ruled out. Being ambiguous, the term provides ample scope for arbitrary interpretations. Even the possibility of inferences that may lead to disastrous consequences for the normative system of higher education and academic integrity is not unimaginable. Inclusion of the ecclesiastical disciplines could be cited as an example, which may pave the way for majoritarian populism in the university. This may adversely impact the comprehension of students towards diverse national or global realities.

Recruitment of Regular Faculty Members

The UGC guidelines suggest that the maximum strength of professors of practice in an institution should be 10%, and therefore the onus (for better learning outcomes) lies largely on the regular faculty members. The idea of professors of practice, when implemented with the letter and spirit of affirmative action, can be truly advantageous for the students as well as the nation when done in conjunction with the regular faculty members. This can probably enhance the employability aspect of the graduates from different institutions of higher learning as well—an aspect critical to our higher education system. Therefore, nothing can substitute the pathetic shortage of regular faculty members in Indian HEIs. Despite this being a major concern, the higher education system in India continues to function with the truncated strength of the (regular) faculty members. This has always kept the idea of the ideal pupil–teacher ratio in higher education systems elusive. The reason being vacant teaching positions in Indian HEIs.

As per the reports mentioned in the *Times of India* (2021), nearly 40% of the sanctioned posts in the central universities are lying vacant. Here too, the larger share is of backlog vacancies belonging to the disadvantaged categories having implications for the social disparity in the distribution of academics at the higher education level. As per the data of the report, vacant sanctioned positions for OBCs, SCs, and STs hold the respective percentages of 55%, 41%, and 39% in the central universities/institutions.

The Way Forward

There is no doubt about the idea emphasising the need for skilled higher education where professors of practice could be one of the appropriate means. However, there are pertinent issues associated with the desperation for its conception and implementation. The idea, as proposed, seems to be too simplified to deal with the differential (and hierarchical) social realities existing in India in the context of enriching learning outcomes through skilling the enrolled students in HEIs that may transform education into an economic as well as social return-oriented learning exercise. There is an inevitable need to make such a policy that is sensitive towards our social realities. Therefore, the affirmative action aspect must be made a part of this policy by the UGC.

If it remains unaltered, it may insinuate the idea of promoting the (social) status quo and shall infringe on the learning outcomes of students as well. Also, the idea can be truly gainful if the policy is considered as complimentary to the recruitment of regular faculty members (with adequate social representation), the fundamental basis for reforming and revolutionising higher education in India.

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Dr. V. V. Bhatt Memorial Internship Programme

Applications are invited from students for the V. V. Bhatt Memorial Internship Programme. The internship has been named after the late Dr. V. V. Bhatt, a well-known Development Economist, who had served in the Reserve Bank of India and the Industrial Development Bank of India, and also in multilateral institutions such as the Asian Institute for Development and Planning, the World Bank and the Economic Development Institute.

Under this Programme, one student pursuing M.A./M.Phil/Ph.D will be awarded summer internship for a period up to three months starting from April 2023.

The Internship will be at *Economic & Political Weekly* (*EPW*), Mumbai. The selected candidate will work under the supervision of a senior staff member at *EPW*. Though, the candidate will undertake the assigned work, he/she will be encouraged to do research on a theme broadly in Development Economics

The awardee will be provided with an internship stipend of Rs. 20,000 per month. While the intern has to make own arrangements for his/her stay in Mumbai, travel expenses will be reimbursed to and fro (by train, 3rd AC). Interested candidates should send their applications to the Director, EPW Research Foundation, C-212 Akurli Industrial Estate, Akurli Road, Kandivli (East), Mumbai – 400 101 or e-mail to **director@epwrf.in**, along with a reference letter from the head of the institution/department where he/she is studying. Applications should reach by **March 15, 2023**.

Inflation Theory Comes Full Circle

Pulapre Balakrishnan, M Parameswaran

A public interchange among some leading macroeconomists suggests a change in the way inflation is perceived by the profession. It is increasingly being recognised that inflation can be the outcome of a conflict over income, reflected in the continuous attempt by the firms to raise prices and by the workers to raise wages in order to gain a larger share of it. At least some part of the inflation in India can be seen as a conflict over income shares and sketches a theory of inflation suited to its economy. Against this background, the effectiveness of inflation targeting is touched upon—the inflation-control strategy of the Reserve Bank of India—and the necessary steps to curb inflationary pressure in India are pointed out.

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In a sign of the times, a turn in the public understanding of an important aspect of economic policy first appeared on Twitter. Intervening in the global discourse on inflation, one of the world's most recognised macroeconomists, Olivier Blanchard, sparked a conversation by stating that inflation reflects a conflict over income.[1]

The conflict is manifested in the continuous attempt by firms to raise prices and by the workers to raise wages to gain a larger share of the national income. This is the wage–price spiral that keeps the inflation alive.

Blanchard's argument is that a central bank can succeed in controlling inflation only by constraining the pricing power of firms and the bargaining power of workers. Monetary policy achieves this by making credit costlier, that is, by raising the interest rate over which the central bank has control, stifling the aggregate demand and slowing the growth, even if it may not tip the economy into recession.

Weaker demand for both output and labour disciplines the firms and workers, keeping the growth of prices and wages in check. However, depending on the pricing power and bargaining strength of the firms and workers, respectively, the necessary reduction in output may have to be great. Technically, a less costly form of inflation control is known to exist. This is "incomes policy," whereby firms and workers are persuaded to show restraint by the government. This is not easy to implement but instances of its success exist. Blanchard does point to all this.

Why he did not point to the costs of taking the monetary policy route while he served as the chief economist of the International Monetary Fund (IMF), which recommends contracting demand to cure inflation, remains a puzzle, but it need not concern us. Soon after his appearance on Twitter, Nobel laureate Paul Krugman published an article in the *New York Times* (2023) titled "The Football Game Theory of Inflation," which uses an analogy from football to show why the incomes policy may be necessary to control inflation.

Krugman asks us to visualise a football match in which the spectators in the first row stand up to get a better view. This blanks out the view of those in the second row, who must stand up too but whose vision is no better than it was when everyone was sitting. The analogy is not exact, as it does not reproduce the counterpart of continuously rising prices, which is what inflation is, but given Krugman's stature value, it led to more excitement on Twitter. Presumably, it has at least got the members of a conformist profession to query the current orthodoxy on inflation.

Blanchard's "discovery" that inflation is a distributional conflict between different sections of the economy over income shares has long been known to the profession. The left wing of Anglo-American economics had identified it several decades ago (Rowthorn 1980) but a strand has long existed independently in the "structuralist" macroeconomic tradition that originated in Latin America in the 1960s. It is the latter understanding, or "theory," that is of greater relevance to us in India (Bianchi 2016).[2]

In fact, Latin American economists had identified an inflationary process peculiar to developing economies that is remarkably close to what actually occurs in India. It is not surprising at all, though, that the Anglo-American orientation of India's profession has meant that it received little attention here. Anyhow, in this view, inflation originates in an agricultural sector that does not keep pace with the growth of demand for its product generated by growing income in the rest of the economy. This generates an imbalance between the supply and demand for food.[3] Rising agricultural prices erode both industrial profits and the value of workers' wages, triggering off a so-called "wage–price spiral." This has an in-built momentum, and is the process that monetary policy aims to end through interest rate hikes. The key insight from the structuralist account is that monetary policy cannot provide a lasting solution to the problem of inflation, for as soon as growth revives, inflation will be triggered by rising food prices.

Inefficacy of Inflation Targetting

Anyone with even a modicum of understanding of the history of inflation in India can clearly see why this account is more relevant here than the theory underlying the inflation control strategy of the Reserve Bank of India (RBI), put in place with much fanfare through a parliamentary amendment of the RBI Act, 1935 in 2016. Termed "inflation targeting," it asserts that inflation is due to the "overheating" of the economy, which can be controlled by interest rate movements. This view has been discredited by the recent events.[4] Inflation began to rise in 2019, and then again with the onset of the pandemic in 2020 and the staggered lockdowns that followed (Balakrishnan and Parameswaran 2022). The upsurge can hardly be understood as a reflection of overheating for the economy, which actually contracted in 2020–21. An econometric study of inflation in India over a longer term, demonstrating both the validity of the structuralist explanation and the lack of evidence for the idea of inflation as a reflection of an overheating economy, appears in Balakrishnan and Parameswaran (2021).

Recognising that inflation in India had begun to rise even before the onset of COVID-19, helps us see both that inflation targeting has no teeth and that we cannot relate the current inflation to the war in Ukraine alone. The price of oil is by now less than it was before the war commenced and the global commodity price index, relevant for India as it is a net importer of edible oils and pulses, has fallen since. However, inflation, though lower, has not abated. The recent movement in inflation in India has been led by three categories of goods, namely cereals, spices, and vegetables. These are homegrown and not imported.

Moreover, in India, inflation has the effect of acting as its own cure to an extent, for as prices rise, the real income of unorganised workers falls, which curbs demand and slows the price rise. So, it is not a forgone conclusion at all that the slowing of inflation in late 2022 is due to the RBI's policy of inflation targeting.[5] It could just be that high unemployment has left workers weaker in terms of their bargaining position. This will slow down the inflation, for wages will no longer rise as much in response to the rising prices elsewhere in the economy or from costlier commodity imports.

Perhaps, as leading Western economists have now expressed scepticism regarding the theory of inflation implicit in the use of monetary policy as its cure, the managers of India's economy will follow suit. The structuralist explanation of inflation shows as to why the use of monetary policy is second best. It ends inflation by restricting the growth of the non-agricultural sector rather than by going to the root of the problem, which is a slow-growing agricultural sector. On the contrary, a policy of bringing about the expansion of the agricultural sector without raising food prices will stimulate the growth of the rest of the economy.

Far too much attention is wasted in parsing the statements of the RBI on inflation, in India, given its poor record in controlling it. The bimonthly meeting of its Monetary Policy Committee could be dismissed as a mere charade if it did not have a costly consequence. The premise that inflation reflects an overheating economy excuses the Government of India from pursuing the policies needed to control inflation. All this will be a complex of policies which will ensure that food supply is increased without raising its price. As these would be supply-side policies, they are beyond the reach of a central bank. By outsourcing inflation control to the RBI in the name of inflation targeting, we are side-stepping the real issue, which is the source of inflation.

In Conclusion

The surge in inflation, globally, in 2022 brought it back to the centre of the discourse in macroeconomics in a way that has not been seen since the 1970s. A significant difference from the 1970s, though, is the current consensus, at least among governments, that inflation control is best left to the central banks. However, as central banks have struggled in fulfilling their mandate, independent economists have suggested that the consensus model enshrined by the central banks—inflation reflects a level of output greater than its natural level—may be flawed. Ideas that have been proposed in the past, that inflation reflects conflict over income distribution or underlying structural rigidities constraining supply, have been resuscitated. Inflation theory, in the sense of how the phenomenon is understood within economics, appears to have come full circle.

NOTES

1 https://twitter.com/ojblanchard1/status/1608967176232525824?t=aQHKcDeNH6SCeXcLClOtpw&s=08.

2 See Bianchi (2016) for a statement of the historical context and an extended bibliography of early writing on the structuralist understanding of inflation. See Basu (2003) for a mathematical exposition of the same.

3 Note that an imbalance can arise even when the non-agricultural economy is not growing if food supply drops. A recent instance of this in India was the COVID-19 episode.

4 In fact, Stiglitz (2023) considers even the current US inflation can be explained by the structuralist model.

5 Inflation rate is computed using the consumer price index (CPI) obtained from the website of Ministry of Statistics and Programme Implementation, Government of India, http://-164.100.34.62:8080/

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Meghalaya Assembly Elections 2023

Issues and Trends

SUSMITA SEN GUPTA

The possibility of another hung assembly in Meghalaya looms large with no single party apparently looking capable of winning a majority of seats and no prepoll alliances so far. It is a matter of conjecture whether there will be a fractured verdict paving the way for another coalition or a decisive mandate will emerge ushering in major qualitative changes in the new ruling dispensation.

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Assembly elections are round the corner in Meghalaya and hectic parleys are on to woo the voters of 60 constituencies in the state. Political and party alignments are undergoing some transformations as well. Despite being a small state, Meghalaya has always been politically vibrant. Regionalism thrived here since the formation of Meghalaya as a separate state of the Indian union in 1972. However, this has been a moderate brand of regionalism without any secessionist overtones. The emerging regional elite has preferred to bargain with the national political leadership for more concessions for the tribal people of Meghalaya, namely the Khasis, the Jaintias, and the Garos. The All Party Hill Leaders' Conference (APHLC), the first regional party of Meghalaya, had even proclaimed itself as a regional party with a national outlook. While some separatist groups cropped up in Meghalaya, these have been neutralised and proscribed and currently, the process of negotiation is being initiated with some of these outfits. None of the regional parties have overtly supported any of these groups. Against this backdrop of a complementary interface between the national and regional political forces, the ensuing elections may be contextualised in several new developments and emerging issues at stake for the public at large as well as for the civil and political society.

Limitations of the Ruling Coalition

The ruling Meghalaya Democratic Alliance (MDA) is battling a huge anti-incumbency wave in view of massive corruption unearthed in a number of government departments, including the police department. There has been a lot of hue and cry about the government's failure to enforce the National Green Tribunal's ban on rathole mining responsible for the tragic loss of lives of many labourers in the coal mines of the state due to unscientific mining. Political blame game is at its peak, with the incumbent government passing the buck to the Congress leaders of the preceding government for their inaction in this regard.

Some of the other issues plaguing the National People's Party (NPP)-led alliance are mounting unemployment, non-payment of salaries of deficit school teachers and accredited social health activists (ASHAs), non-completion of ongoing projects within the stipulated time frame, shoddy implementation of projects leading to a disastrous collapse of the assembly dome under construction in the new Shillong township, leakage in the newly inaugurated interstate bus terminus (ISBT), never-ending traffic snarls without any solution in sight, power deficit and below par performance of alleged corruption-ridden Meghalaya Electrical Energy Corporation Limited (MEECL), and so on and so forth. Ironically, the principle of collective responsibility has taken a back seat and other coalition partners are washing their hands off the many deficiencies of the current MDA government.

Issues Raised by Civil Society

Pressure groups, a major constituent of civil society, have been significant forces to reckon with in Meghalaya politics. Most of the pressure groups are ethnocentric student and youth organisations capable of influencing government policies on sociopolitical and economic issues. Over the years, the major issues dominating the politics of civil society are preservation of tribal identity, introduction of the inner line permit (ILP) in Meghalaya, opposition to the Citizenship (Amendment) Act (CAA), resistance to uranium mining, modification of the current reservation policy among the three major tribes—the Khasis, the Pnars or Jaintias, and the Garos—demand for separate Khasi–Jaintia and Garo states, inclusion of Khasi and Garo languages in the Eighth Schedule of the Constitution, relocation of Shillong's Harijan Colony, resolution of the boundary dispute with Assam, etc.

Other dimensions of the civil society discourse revolve around staunch resistance to the introduction of railways due to an apprehension of influx of people from outside the state as well as opposition to the establishment of large industries. A visible fallout of this discourse has been the exclusion of the Khasi–Jaintia hills from the railway map of India, a total lack of industrialisation, and rising unemployment among the youth of the state.

Ethnicity: A Major Determinant of Regionalism

In order to understand the dynamics of electoral politics in Meghalaya, it is necessary to take cognisance of the nature of regionalism.[1] In Meghalaya, regionalism is closely associated with the aspirations of the tribes inhabiting the state. The Constitution and the election manifestos of all regional parties invariably harp on "protection and preservation of tribal identity." The Hill State People's Democratic Party (HSPDP) even proclaims itself as a tribal regional party. The APHLC had declared that it was demanding the creation of a separate state for the hill areas of Assam where the interests of non-tribals would be fully protected.

In reality, however, the regional parties proved ineffective in upholding the interests of all the sections of the society whenever ethnic clashes erupted in Meghalaya at regular intervals, even when they had been in power. But the fact remains that non-tribals constitute a significant section of the electorate in urban areas like Shillong and Tura, although their percentage in the rural areas is negligible.

Regional Parties' Agenda

Hence, regional parties cannot afford to alienate non-tribal voters altogether. At the same time, the political and economic programmes laid down in their election manifestos show the ethnocentric dimensions of regionalism and regional parties in Meghalaya.

None of the civil society organisations in Meghalaya are directly affiliated to any political party, although there are close interactions between the civil and political society. Most of the issues raised by the civil society are, therefore, likely to figure prominently in the electoral agenda of regional parties in an attempt to seek propaganda advantage over one another as sole champions of tribal interests. Nevertheless, electoral trends of the last decade and a half demonstrate that prospects of regional parties have dwindled primarily due to personality clashes among the regional leadership which stand in the way of a united front of regional parties. Contrary to its nomenclature, the United Democratic Party (UDP) has so far failed to unify regional forces in the state under its banner.

Other regional parties like the HSPDP and Khun Hynniewtrep National Awakening Movement (KHNAM) are quite vocal about local issues, but have not been able to convert their social capital into significant electoral support. Broadly speaking, national parties have been preferred in Garo hills whereas regional parties have fared comparatively better in the Khasi–Jaintia hills. Some of these parties shared power with the NPP in the MDA coalition and are keeping their options open for the next elections without entering into any prepoll alliances.

Dramatic Entry of AITC

In December 2021, the All India Trinamool Congress (AITC) staged a coup in Meghalaya politics and nearly half of the existing Congress members of legislative assembly (MLAs) switched over to the AITC almost overnight. This enabled the AITC to emerge as the main opposition in the Meghalaya assembly. The Congress received a further setback with the rest of its MLAs opting to support the ruling MDA coalition. While these MLAs were suspended by the Congress, they have explored greener pastures by joining other parties. Ampareen Lyngdoh, for instance, has joined NPP just before the Meghalaya assembly elections. The Congress party is now more or less decimated in Meghalaya. Its political space has been usurped by the AITC.

As assembly elections draw closer, defections have become rampant. Ideology never mattered much in the dynamics of electoral politics in Meghalaya. There has been a frequent circulation of political elites from the national to the regional parties and vice versa. Meanwhile, the AITC is engaged in grassroots mobilisation after making its debut in the Meghalaya assembly through the backdoor. In the run up to the 2023 assembly elections, a bitter propaganda battle is on for electoral mileage among rival parties. In this regard, AITC is trying to steal the show by coming up with a ten-point pledge to cater to the interests of different target groups like women, youth, and farmers and by promising social security for all, holistic healthcare, robust civic amenities for residents, etc. The party improvised its programme to impress the voters of Meghalaya by glorifying the music, sports, culture, and tourism of the state and by showing honour towards the traditional institutions. It has certainly made some inroads, going by the success of its massive rallies in Garo and Khasi hills. The party has also launched a couple of women- and youth-oriented schemes to woo these sections of the electorate. Most of these schemes are being pooh-poohed by the NPP and the Bharatiya Janata Party (BJP) as political gimmicks.

Prospects of Different Parties

Meanwhile, the NPP is on an inauguration spree of completed and partially completed projects. The abrupt breakdown of law and order in November 2022, following a firing incident in the disputed Assam–Meghalaya border, has undoubtedly cast a shadow over the prospects of the NPP, the leader of the ruling coalition. Nonetheless, its control over the state machinery will undoubtedly give it an edge over other political parties in the fray.

The BJP has only two members in the outgoing Meghalaya assembly, but it has been a part of the ruling coalition. There is some infighting within the party organisation. However, it is planning to contest more seats this time and is desperately seeking to shed its image of a pro-Hindu party by going all out to woo the voters of this state with a majority of Christians.

In the volatile political scenario of Meghalaya, some intellectuals and like-minded individuals have launched a new political party named Voice of the People Party (VPP) with a focus on "clean" governance. The next elections will witness quite a few fresh contenders seeking a mandate from the people to try and resolve the burning issues facing Meghalaya.

On the whole, ethnicity has prevailed over development in Meghalaya politics. It will be interesting to watch whether this trend is reversed or the status quo will prevail in the aftermath of the next elections. As of now, Meghalaya is in a poll mode and intense political activity is on but it is still premature to comment on the prospects of a dozen parties in the fray. The possibility of another hung assembly looms large with no single party apparently looking capable of winning a majority of seats and no prepoll alliances reached so far. Moreover, a few independents will be waiting in the wings, only to swing into action at an appropriate time in the event of a hung assembly.

Conclusions

Despite the uncertainties, it is possible to contemplate a few permutations and combinations emerging in the post-poll scenario. It is likely that the NPP emerges as the single largest party and forms an alliance with the BJP and other regional parties. The AITC might win around 20 seats and align with regional parties to form a coalition government. Alternatively, the BJP might win more seats and emerge as the kingmaker. There is also a possibility that the elected members of the AITC switch allegiance to other parties and open up new possibilities.

As far as the electorate is concerned, some disenchantment with the ruling coalition is perceptible among them. Whether there will be a split decision that opens the door for another coalition or whether a clear mandate will emerge that ushers in significant qualitative changes in the new ruling dispensation is up for speculation.

NOTE

1 Barrister Pakem, former professor of political science and former vice chancellor of North-Eastern Hill University, Shillong, had observed that ethnicity is the major concern of all regional parties in North East India.

Taxation of Non-fungible Tokens

An Emerging Legal Challenge for Taxing Intellectual Property in Virtual Digital Assets

NIHARIKA SALAR, ANINDYA SIRCAR

India took its first step towards regulating non-fungible tokens when the Finance Bill of 2022, in particular Section 2(47A) and notifications 74 and 75 of 2022, were introduced. However, these amendments seem to be insufficient and superfluous given the complex and novel subject matter of NFTs. An attempt is made to dissect the provisions and examine the bill.

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Non-fungible tokens (NFTs) are all the rage, particularly in the digital and intellectual property communities. An NFT is a special type of digital asset or token proved to be unique and not interchangeable with another digital asset token (that is, fungible). Typically, the uniqueness of the NFT exists as a cryptographic record on a blockchain, or distributed ledger, and can readily be viewed by anyone. While that is not always the case, NFTs are not just digitised information about an asset—they are a digital asset. Tokenising (securing sensitive data rather than representing irreplaceable digital assets using a platform that exchanges customers' sensitive data for non-sensitive data) these real-world tangible assets make buying, selling, and trading them more efficient while reducing the probability of fraud. In addition to enabling artists to commercialise their work in hitherto unexplored ways, NFTs facilitate a self-perpetuating chain of ownership in a particular object, which can range from a tweet to a musical composition. On a distributed ledger, NFT transactions are recorded, allowing individuals to determine if the NFT is issued by the creator.

Cryptocurrencies have been in existence globally since 2008 and have been credited as the first known NFT, minted in 2014, that managed to capture the limelight throughout the pandemic, with the NFT market achieving all-time highs in 2020–21 (Ray 2022; Mirza 2022). With the public clamouring around NFTs, legal issues surrounding taxing of the NFTs have slowly arisen (Howcroft 2021). The purpose of this note is to track and analyse such issues.

NFTs and Legal Implications

One of the first steps of analysing NFTs would be to look into the question of who can create or mint an NFT. It is also essential to understand what the purchase of an NFT entails and the liability associated with it. When one purchases an NFT for a tokenised digital asset, it does not imply that one is purchasing sole possession of the said artwork. What one purchases is instead sole access to the control of the smart contract of the NFT stored on the blockchain that has created a record that one is indeed the registered owner of the NFT (Murray 2022). A primary reason motivating most purchases is the underlying asset linked to the NFT. What is key to note for any purchaser is the terms under which the NFT has been purchased; whether it includes the actual transfer of ownership in the underlying asset, or whether it simply includes something else, such as support or patronage for cultural property. For example, the platform "Valuables" characterises the purchase of an NFT as the purchase of an "autographed certificate," implying that a sale does not imply a transfer of copyright in the underlying work to the buyer.

Last year in November, Miramax LLC sued famed director Quentin Tarantino when the blockchain platform Secret Network announced that they would be selling NFTs of uncut scenes from the movie *Pulp Fiction* (*Miramax v Tarantino and Ors, 2022*). Miramax claimed that they held all rights over the film, except for specific ones which were reserved for Tarantino, which did not cover NFTs. To be very specific, the agreement between Tarantino and Miramax reserved Tarantino the rights to

> soundtrack album, music publishing, live performance, the print publication (including without limitation screenplay publication, "making of" books, comic books and novelization, in audio and electronic formats as well, as applicable), interactive media, theatrical and television sequel and remake rights, and television series and spinoff rights.

The issues that arose from this case included whether the term "screenplay publication" would include the launch and collection of NFTs, and a derivative issue of whether the sale of NFTs infringed Miramax's copyright and trademark over *Pulp Fiction* (Alan 2022).

The case was eventually settled by an agreement between both parties. Although the terms of the settlement were not disclosed, this highlights the potential issues that could arise in the context of rights associated with the creation of NFTs, especially with reference to rights that could arise from agreements that were entered into before NFTs existed (Robertson 2022; Queen 2022).

The case of *Hermès Int'l v Rothschild* (2022) also provides insight into the issues that NFTs raise in the sphere of trademark and copyright. Hermès is a luxury fashion business brand that is well known in the industry, and one of their best-known products includes the "Birkin" handbag, which sells for anywhere between a few thousands, to over a hundred thousand dollars. The defendant, an entrepreneur coming from the fashion industry created a collection of NFTs titled "MetaBirkins," and each of these NFTs were sold at prices comparable to real-world Birkin handbags. While Hermès has alleged that the creation of these NFTs has resulted in a violation of their trademark, Mason Rothschild claims that his use should be considered "fair use" since the creation of these NFTs were a result of his "interpretations of the world around [him]" (Rossow 2022). The outcome is still awaited.

Another case that could be pivotal in decoding the role of intellectual property laws in the context of NFTs is *Nike, Inc v StockX LLC* (2022). In February 2022, Nike filed a case against StockX, a company that resells used shoes and sneakers. The case specifically insinuated that StockX's Vault NFT collection, which linked used Nike sneakers that they were reselling with a specific NFT created for the same, infringed Nike's trademark (Song 2022). StockX claims that the idea of the product was to allow consumers to buy an NFT that was linked to a physical product, wherein the NFT would act like a digital receipt. This model would essentially imply that the purchase of the NFT would not necessarily entail that the buyer had claimed the physical product, allowing for easier resale of the physical product through the means of the NFT. While Nike claims that these NFTs are distinct digital products with their own value (especially since these NFTs have been purchased at a much higher rate as compared to the same physical shoes that they have been linked to), StockX claims that their use is no different to other online and offline retailers using images and descriptions of products to sell them (Stasa 2022). Nike's core argument lies in that the minting of these NFTs results in the use of Nike's trademark, allowing for StockX to capitalise on their goodwill, thereby misleading customers into purchasing what they would believe to be "investible digital assets" at extremely inflated prices. StockX, on the other hand, argues that their usage of Nike's branding for resale should be considered proper under the first-sale doctrine. A decision on this case is yet to be put forth as well.

Thus, there is very little global regulatory guidance regarding whether NFTs fit under the scope of existing law applicable to crypto assets. Most governments have not yet built legislative frameworks that are applicable to NFTs, but several have implemented or announced proposals to regulate distributed ledger technology (DLT) or crypto assets more broadly. Liechtenstein is an exception, having established a law regarding the civil and supervisory framework for the tokenisation of rights in physical assets, which would cover specific NFTs.

The Tax Regime

Under Section 2(11) of the Income Tax Act of 1961, the distinction between tangible and non-tangible assets is included. Patents, copyrights, trademarks, and any other business rights that may be considered as intellectual property are included among the non-tangible assets. Section 9(1)(vi) defines royalty and outlines the taxation of income in the form of royalties that are deductible as either business expenses or income. If the intellectual property is Indian, Section 5(2) of the Income Tax Act will apply since the consideration for its use or disposal will arise in India. Although there are a few exceptions, such as when any right, property, information, or service is used outside of India or to create or earn any money from a source outside of

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India, royalties are taxed for residents. Section 35A further discusses expenditures for acquiring patent and copyright assignments. The same patent or copyright must be depreciated if the payment is paid in one single sum. Moreover, in accordance with the goods and services tax (GST), the temporary transfer of any intellectual property right (IPR) or allowing the use or enjoyment of any IPR has been treated as a "supply of services" under entry 5(c) of Schedule II of Section 7 of the CGST Act and is subject to GST at 12% (6% CGST + 6% SGST), provided that the IPR in question does not relate to information technology (IT) software. Lastly, granting permission to use or enjoy IPR in relation to IT software is subject to taxation at a rate of 18%.

Comprehending Specific IPR Scenarios

NFTs offer a number of benefits due to the fact that decentralised marketplaces that deal in art are naturally accommodating to their creators. This is due to the reason that such platforms do away with the need for intermediaries and connect buyers and sellers of content directly with one another. This precludes intermediaries from having claims of ownership, controlling how the digital work is distributed, or even taking a large cut of the creator's revenues. Additionally, this stops intermediaries from taking a cut of the creator's earnings.

They also tend to strengthen the underlying rights that are covered by copyright legislation. This is because non-exclusive transfer licences, in addition to enabling the original artist retain ownership of the copyright, also provide income to the original artist whenever the work is sold. The difficulty of easily reproducible digital works being protected by copyright can also be solved by ensuring to connect the original work with the NFT. This will allow the original work to be recognised and identified. It further protects moral rights like the right to preserve the integrity of a work, even after the work has been sold or commissioned, and gives authors the ability to choose the context in which a previously acquired work might be utilised for commercial purposes.

Since the "digital first-sale doctrine" (a legal concept in which a product purchase provides the original consumer of copyrighted material with distribution rights, meaning the right to sell, copy or distribute the product and when reproduced, however, the copies are not be considered an infringement of the original owner's rights) is not universally acknowledged, as the issue of infinite reproductions of digital assets has arisen. This issue is also known as the "double-spend problem," and it occurred because buyers were unable to ensure that a digital file or unit of currency was received by a single recipient. The possibility that digital money may be spent multiple times also presents a challenge that is exclusive to digital currencies and remains as a pertinent issue. NFTs, on the other hand, eliminate the "double-spend" problem for digital files since they utilise blockchain technology, which logs where an NFT originated as well as subsequent transactions using that NFT.

NFTs, however, can also worsen the problem of copyright infringement and undermine the sense of ownership in artistic work. Due to the immutability of the blockchain, it is not possible to retract the publication of a token and the rights that go along with it. This creates an issue in the event if the NFT is coined without the authorisation of the artist, as the artist would then find it extremely difficult to reap revenues or to assert any rights against the unchangeable or indestructible digital asset. For instance, some artists reported at the beginning of this year that their work had been improperly sold on NFT sites despite having given no authorisation for its distribution.

Additionally, it will now be simpler for artists who have developed derivative works and do have good intentions to be held liable for "exploiting" the protected intellectual property. This could have a subsequent impact on the trade of NFTs because the reseller could be held accountable if it is determined that the work expressed in the NFT infringes on the copyright. In addition, most marketplaces and systems that support the trading of NFTs neither provide any sort of assurance regarding the uniqueness, originality, nor the quantity of the work or metadata that is stored on the token. Consumers lack any assurance whether the underlying work infringes upon any intellectual property. This is especially problematic given the anonymity that is provided by such platforms, making it extremely difficult to verify the rightful creator or owner of the underlying work. As a consequence, their now-useless NFTs run the risk of being deleted by the marketplace due to copyright concerns. However, despite the fact that some infringing NFTs have been removed by the platforms themselves, there has been neither an application nor a case brought before a court yet that involves NFTs and digital art. Take-down notices under the Digital Millennium Copyright Act (DMCA) may be issued in the United States to remove content that are in violation of copyrights as well.

Cryptocurrency Tax

India is still in the nascent phases of navigating blockchain-based technologies. With the NFT industry valued at an estimated $3.3 billion and a CAGR (compound annual growth rate) of 61.6%, the need to regulate this industry has been well recognised (Aggarwal 2022). India's first step towards regulating NFT-specific subject matter was initiated in 2022, by the introduction of the budget, and the Finance Bill, 2022, particularly Section 2(47A) coupled with notifications 74 and 75 of 2022 (Ministry of Finance 2022a, 2022b). The Income Tax Act was amended to include virtual digital assets (VDAs), under which cryptocurrencies, NFTs, and other digital assets as and when notified by the government gets included (Bharucha and Jain 2022). Section 115BBH was introduced, through which any gains from VDAs would be taxable at 30% without any allowance for deduction for expenses, or set-offs for losses (Agarwal 2022). In addition to this, Section 194S was also introduced, which would accordingly deduct TDS (tax deduction at source) at 1% on all transfers of VDAs with an intention of expanding the tax base (Agarwal 2022). The Indian government also had plans of introducing a Central Bank Digital Currency, along with a legislation specifically directed towards cryptocurrencies and crypto assets (Cryptocurrency and Regulation of Official Digital Currency Bill, 2021), but the same has not achieved fruition yet (Ray 2022).

Lacunae

One could be inclined to state unequivocally that the tax treatment of the NFT should follow that of the underlying asset because, at its most basic level, an NFT could be described as merely a representation of a person's ownership of an underlying asset. Even though this statement may prove to be true in general, it also serves to conceal a number of technical concerns that need to be explored.

Not appreciating enough, the nature of the subject matter: One of the biggest lacunae in the proposed scheme is the lack of acknowledgement the intellectual property NFTs are capable of holding. Diverse token standards enable the collection and distribution of royalties, which are provided to the issuer of the NFT for each resale on secondary markets or as defined in the self-executing programmable identities of the NFTs. Legislations often struggle with systemised distribution of royalties for the reselling activity of NFTs. NFTs allow a paradigm change in how we manage copyright, namely that the creative artist gets remunerated during the first sale but also receives royalties if/when their artwork accrues value due to exposure, recognition of the artist, or due to several other factors (Chadha and Prasad 2022).

NFTs have the potential to take various forms, including a derivative, security, money/currency, copyright, IP, tradable commodity or all of it. Possible taxation varies depending on how the NFT is characterised (Kumar 2022). The underlying code may, for example, mandate that the inventor get a portion of the price every time the NFT is transferred. Would the seller's taxable gain be appropriately reduced? In the hands of the creator, how would the payment be handled? The possibility that the code could instead (or additionally) stipulate a sum on account of tax is automatically withheld and accounted for is something that tax authorities may start to consider. Would this necessitate that tax authorities accept payments made in the cryptocurrency used to pay for NFTs?

In order to have a cogent strategy that eliminates the possibility of double taxation, it will be crucial to study the regulations globally while performing this tax characterisation. For example, in cases of NFTs associated with physical goods, VAT would apply where the consumer is located, if it is classified as a digital service. However, if this is classified as a physical good, the VAT is likely to be applied where the physical product is, especially if it is not actually sent to the customer at the time of the sale. A level of international cooperation with regard to the underlying rules and their administration may also be necessary. This is to impose a requirement on those who mint crypto assets to include such a code, and, given the anonymous nature of crypto asset transactions and challenges in determining the taxing location, administer the withholding tax. (The European Union Blockchain Observatory and Forum 2021).

Decentralised technology: As the blockchain is a decentralised technology, there is no centralised authority that can shut down NFTs. This is because there is no way to enforce the rules. Each separate platform is responsible for its own compliance with the relevant regulations. In spite of their commitment to reducing traditional hazards, platforms like OpenSea have not been successful in regulating pirated content. The fact that the infringement could take place from anywhere in the world and could be done using a pseudonym, makes it harder to take any action. In order for regulators to identify the owner of a digital wallet address that is associated with a pseudonymous account and hold them responsible for their actions, sophisticated computer forensics would need to be developed and employed (Clifford Chance 2021).

Therefore, while the newly introduced scheme aims to regulate VDA taxation, it leaves several concerns unaddressed. Apart from enforcement issues, it does not differentiate between a resident and non-resident taxpayer and fails to take into account cases of VDAs listed on exchanges or platforms based outside India. With increasing IPRs being appreciated without global borders in light of the transborder reputation and goodwill enjoyed, such differentiation becomes a key understanding for regulation. Additionally, because of the method of global operation, it becomes both interesting and challenging to understand whether the cost of acquiring multiple VDAs can be considered as a single block of assets or whether the cost of acquisition will have to be determined at a level or asset, asset class or category, etc (Economics Law Practice 2022).

Further, while it appears that any loss incurred from transfer of VDA may not be allowed for set-off or adjustment against any other income, whether multiple transactions of the same assessment year leading to both losses and gains would be eligible for set-off inter se is still doubtful. Requirements for TDS compliances and identification of counterparty remain a challenge, and therefore, the tax deducted at source could become a permanent cost of the transaction (Temkin 2022).

The complex task of taxing name, image and likeness in an NFT: Personality rights are another legal issue that finds relevance in the space of NFTs (Salar and Reddy 2021). They are a subfield of intellectual property law that was established to defend public figures against third parties' attempts to profit from their public personas in any possible way. It is possible for a particular celebrity to have a global reputation and outreach; hence, opportunities to capitalise on the celebrity's reputation are actively pursued. Both monetarily and in terms of the promotion of a business, non-fictional characters that depict persons have been regarded as useful. As an illustration, professional sportspersons have started participating in the NFT market by giving digital memorabilia of themselves to fans. When non-financial transactions make use of a person's name, image, or reputation without that person's authorisation, it may be a violation of the person's right to their personality. When this occurs, an entity that is participating in trading that NFT may then be accountable for the infringement of personality rights. This is owing to the fact that such NFTs are considered for commercial use due to the financial transaction that is involved. In the same vein, purchasers of a non-transferable right that infringes on another's work may also be held accountable for infringement if they resell the NFT and use the work itself to advance their own financial interests. This would entail accountability for leveraging the valuable or attractive NFT in an attempt to lure clients to their place of business. Trading platforms could potentially be found accountable for both secondary and contributory infringement based on the state laws that are in effect in that particular jurisdiction (Goldman 2021). Due to this, the act of selling, buying, or even hosting the rights of another person is made far more difficult owing to personality rights.

There is also the viewpoint that NFTs assist celebrities in reclaiming the personality rights that were misused by infringers. They provide a new marketing option for athletes and celebrities to earn from their name, image, or likeness by licensing their likenesses, or images of themselves. Athletes and celebrities can create their own marketing platforms and negotiate to have these rights removed from the purview of collective bargaining agreements (Chodirkar and Ors 2021). As a consequence of this, as was noted before, a great number of athletes have started selling their own trading cards and digital collectibles outside of the frameworks of leagues and teams, which has enabled them to reclaim the rights to their personalities. In addition to this, the featured celebrities get a portion of the proceeds whenever the NFT gets resold and are likely to profit from using their own names and images as digital tokens. As a consequence of this, any future violations of intellectual property rights will be thoroughly monitored, investigated and strictly policed.

Nevertheless, those items have the potential to become online memes or to spread widely throughout the internet. When an individual's identity is exploited to sell a product or service without the explicit agreement of the subject, such as in the case of celebrity tokens (monetising the celebrity's reputation), NFTs may also result in the unconsented misuse of the individual's personality. In such a situation, a possibility of the Income Tax Act's provisions colliding with each other arises since the provisions on taxing royalties on copyrights may not cover NFTs and the new scheme does not appear to take into account similar associated rights (Slaughter and May 2022).

Conclusions

New modalities of ownership and monetisation are becoming a reality as a result of NFTs, and it is reasonable to expect that their wider adoption will have substantial implications for many industries. The market for NFTs (including cryptocurrencies and cryptography-based tokens) is growing rapidly. This is also affecting tax administrations, which must adapt to the growing role of crypto assets. Several characteristics of NFTs are likely to pose novel challenges in tax administrations' efforts to ensure taxpayer compliance (Giesselman and Erdmann 2021). NFTs have the potential to tackle a wide variety of issues that are associated with digital transactions, including those

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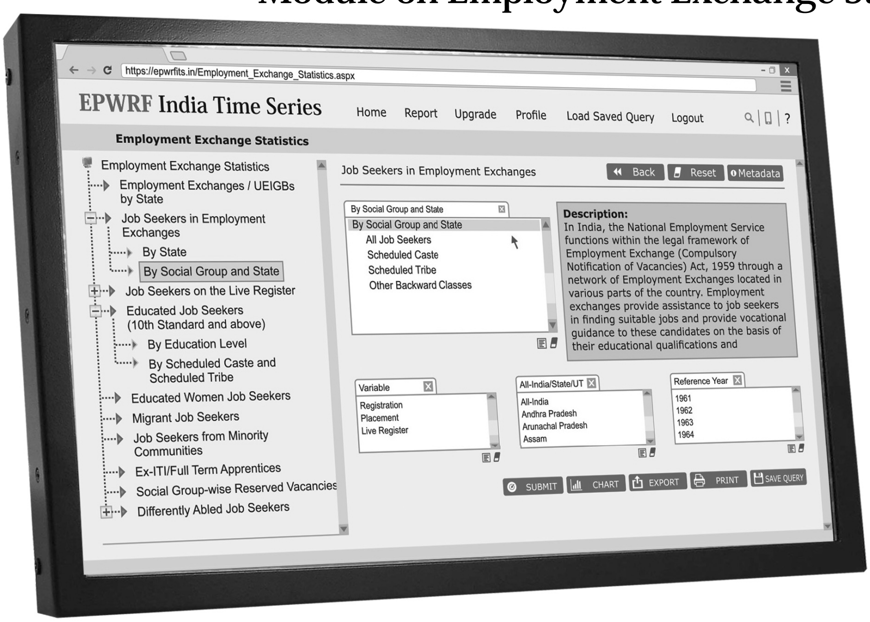

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pertaining to transparency, provenance, and the prevention of multiple spending. Nevertheless, it is difficult to find a solution that can be applied universally. In comparison to the digital transactions that are currently used, it is a technological instrument that enables transactions to take place in a manner that is more trustworthy, verifiable and traceable. In spite of the fact that it can be utilised with minimum risk, it is not unheard of for mistakes to occur. At the very beginning of the process, there is the strong possibility of withholding information in the chain. However, once the information is added to the blockchain, it is impossible to change or edit, and the incorrect information will be spread.

Despite the growth of the NFT markets, we are still very early in the development and real adoption of NFTs. As a result, we might not be able to separate the short-term growth hype from a sustainable and mature market. Concerns with legal and property rights will require attention as and when they arise in specific situations. An individual even went as far as creating a verified profile for the artist Derek Laufman on Rarible and selling NFTs in the artist's name, which is probably just the tip of the iceberg as to how misappropriation can take place. As NFT sales would not prevent parties from reproducing the underlying work, the effort to establish control over the "personality" would be in vain. Therefore, despite the fact that the right would be helpful in theory, the platforms have not put much effort into really putting it into practice.

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Beyond the Paternity of Caste
The Dalit Christian/Dalit Muslim Challenge to the Rule Book

NIDHIN DONALD, ASHA SINGH

The Dalit Muslim/Dalit Christian opposition to the stipulation of religion in the Constitution (Scheduled Castes) Order of 1950 is a critical chapter in the postcolonial history of India. In this article, it is argued that the state's inability to grapple with this challenge is explicitly visible in its unreasonable insistence that caste inegalitarianism is an exclusive domain of the Hindus (or "Indics") and conversion is an absolute material and ideational break from the past.

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In August 2022, the Supreme Court asked the union government to respond to a bunch of petitions filed by Dalit Christians and Dalit Muslims challenging the constitutional validity of paragraph three of the presidential order of 1950, which recognises Scheduled Castes (SCs) only among Hindus, Sikhs, and Buddhists.[1] The union government was given three weeks to respond to these petitions, which have been pending for over 18 years. Against the backdrop of this development, the Ministry of Social Justice and Empowerment set up a three-member committee to "study" the issue.[2] However, the affidavit filed by the union government upheld the "egalitarian" nature of Christianity and Islam and stated that SCs who converted to these religions had altered their status and thus their claims of "backwardness arising out of untouchability" were unacceptable. In other words, the state's formulaic, text-centric view of semitic religions disregarded the collective experiences of SC converts and their academic deliberations. This, however, is not a new story. Several governments in the past have shown great confidence in the "castelessness" of Christianity and Islam even when Christians, Muslims, and others have had contradicting experiences.

It is worth noting that Dalit Christians and Dalit Muslims have been demanding a "religion-neutral" SC list, for over six decades now.[3] They have been mobilising, politically and intellectually, to convince their religious leaders, civil society, state, and national governments about the need to free conversations on caste from scriptural confines and accept it as a structuring feature of social, political, and economic life in India. As a result of their efforts, numerous state governments have passed resolutions in support of their demands. Moreover, the National Commission for Religious and Linguistic Minorities, 2007, National Commission for Minorities, 2008, National Commission for Scheduled Castes, 2011 several State Backward Classes Commissions and the United Nations Special Rapporteur on Freedom of Religion or Belief have underlined the need to reconstitute SC as a "non-discriminatory," secular category. They have also emphasised the similarities in the social and economic profile of SCs irrespective of religion.[4]

Cultivated Official Disregard

The caste-ridden nature of Indian Christianity and the historical labour of Dalit Christians to democratise their religion are well-established facts in social science literature, making "Dalit" a legitimate category within Indian Christianity (Wilson 1982; Stanislaus 1999; Yesudasan 2014). For instance, the term "Dalit Christian" was officially embraced by the Catholic Bishops' Council of India (CBCI) in 1989 following which they also established specific commissions for lower-caste Christians (Parkhe 2007). Discussions on Muslim caste structures and organised struggles against the same by lower-caste Muslims have produced new political and intellectual ferment within social justice deliberations (Ansari 2018). The term "Pasmanda" and recently the term "Dalit Muslim" have received substantial political and academic attention (Rayeen 2013). Thus, Christians and Muslims have expanded the non-discriminatory signification of "Dalit" to challenge and overcome the institutional narrowness of the category of SC. Moreover, lower-caste Muslims' and Christians' engagements with affirmative action policies and the judiciary have made the category of "SC converts" visible and unavoidable (Samarendra 2016a, 2016b; Bhat 2019).

Yet, why do we find such resistance to the inclusion of Dalit Christians and Dalit Muslims in the SC list? Do they stem from scientific concerns of "lack of evidence?" If yes, they are unintelligible as one can list several scientific works on castes among Christians and Muslims over the past 50 years (Deshpande and Bapna 2008). Moreover, the lack of data on these communities is a problem they share with most castes in India, which ought to be resolved by well-designed caste censuses and surveys. Do they then emerge from fears of "greater competition" within an already overcrowded list? Several new groups were added to the SC list after independence; inclusion of more groups would inevitably lead to demands for a greater share, especially at the level of the federal state.[5] However, this is a methodological concern (which already exists) and not a moral opposition to Christian or Muslim entry. Further, to our minds, such a concern can be fought better with the inclusion of Dalit Christians and Dalit Muslims. Moving ahead, does the resistance emerge from arguments that "untouchability" was historically defined in relation to Hinduism and thus the list logically excluded Christians and Muslims from its inception in 1935? Zoya Hasan (2011: 200–01) notes that Muslims and Christians were excluded from the Imperial (SC) Order of 1935 to avoid double reservation. However, with the revocation of communal representation post independence, such exclusion is unjustifiable. Moreover, one need not be burdened by the rule of precedence, especially when we have adequate evidence of Christian and Muslim elaborations on caste and untouchability.

It is our contention that the source of the problem lies in the state's ideological incompetence to confront the mechanisms of caste, independent of religion. This incompetence inevitably emerges from colonial notions of religion and religious difference. Dalit Muslims and Christians with their demand to be counted as SCs destabilise these received assumptions. Though we have examples of court judgments which pendulate between the autonomy of caste and its dependence on religion, generally the judiciary has protected the Hinduness of caste (Samarendra 2016a). As David Mosse (2018: 423) argues, caste is perceived as a socio-religious category exclusive to Hinduism and not a political–economic category which affects South Asia as a whole. In the remainder of this article, this ideological position will be elaborated and contested by asking how lower-caste Christians and Muslims demand methodological secularism in policymaking and academic deliberations. Here, methodological secularism would mean a critical appraisal of the caste–religion–state linkages beyond the enchantment of "book views." To borrow a term from Meera Nanda (2005: 26), such an approach challenges the "religionisation" of caste which obscures analysis of social change and continuity.

Caste Inegalitarianism as Exclusively Hindu

The official perspective/s view/s caste as the key organising principle of Hinduism—an "original sin" inherent to its polity. According to them, caste is Hindu and therefore bona fide "Indian." This easy equation makes space for caste in Buddhism, Jainism, and Sikhism as they are viewed as derivatives of Hinduism and undeniably "Indian"—notwithstanding their antagonistic positions on caste. Thus, Buddhist (and Sikh) inclusion to the SC list was justified, as they gradually came to be perceived as "model" converts, who chose "home-grown" options as opposed to Dalit Christians and Dalit Muslims who converted for either "pecuniary benefits" or "under pressure" (Lok Sabha Debate 1990: 56–60).

As a consequence, caste-based inegalitarianism is perceived as an exclusive turf of the Hindu fold—a stance that assumes an absolute, irreconcilable difference between Hinduism and semitic religions. To varying degrees, this constructed difference has alienated non-Hindus from shared categories of stratification and belonging such as *jati*, language, ethnicity, and region (Mallampalli 2004). Christians and Muslims are expected to use categories which are exclusive to them since all that is native and local is prima facie Hindu. And the category of the "Hindu," in turn, stands outside of history, much like the heteronormative family. Three categories emerge from such a conceptualisation—those who stayed true to Hinduism by either defending or reforming its orthodoxies; those who produced versions of indoor critique and settled in adjacent rooms (Buddhists, Sikhs) and finally those who betrayed and left. Christians and Muslims are counted as part of the third group.

From such a stance, caste can enter the lives of Christians and Muslims only through *jugaad* or flexible corruption. It is perceived as an irrational persistence or an unfortunate move away from the ideals of fundamentally egalitarian faith systems (Levesque 2020). Such an entry supposedly extinguishes the Hindu essence of caste. It structures new physical and social environments such as churches and mosques, their seating arrangements, cemeteries, ritual privileges, appointments of priests, nuns, laity associations, etc. It sometimes abandons the good old techniques of touch–untouch and embraces Christian and Muslim idioms of discrimination. To borrow a term from the nationalist movement, caste gets "denationalised," once it enters Christian or Muslim lives. Yet, if we take a closer look at Hindu castes, one can trace similar changes, in *rahan-sahan, khan-pan* and even conceptions of god. Good old techniques have now become nuanced or been abandoned; new elaborations on caste are visible all around us. In other words, Hindus too have "denationalised" caste, robbed it off its classic scriptural soul. Beyond temporal variations, Christians, Muslims, and Hindus also display great regional variations in their caste compositions, making causal connections difficult (Deshpande and Bapna 2008). Yet, the state demands evidence of ideal Hindu versions of untouchability and archetypal levels of severity only from Dalit Christians and Dalit Muslims. Such demands, on the one hand, disregard empirical accounts of caste-based discrimination among Christians and Muslims, and on the other, fix SCs and Hinduism in a time capsule of idealised untouchability.

Even well-intentioned scholars have been embroiled in debates on whether to call caste by its name or by any other proxy if the concerned subjects are Muslims (or even Christians). Pointing out the redundancy of such debates, Imtiaz Ahmed (2010: 241–42) notes that the unease among sociologists to use the term caste or caste system to understand the stratification among Muslims is not a consequence of empirical research; rather it emanates from essentialist ideas of religion. The egalitarianism of Islam and Christianity is posited against a frozen view of Hinduism. While the former has caste by stealth, the latter has a well-defined, intricate system.

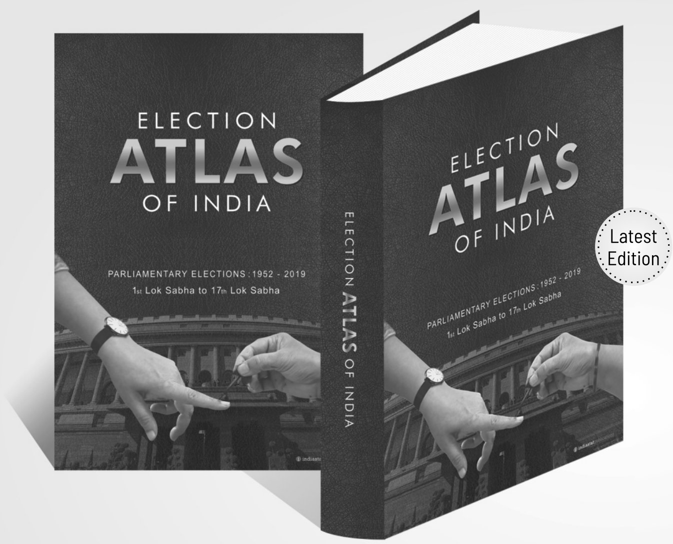
Caste, as a dynamic institution, works in tandem with other institutions and responds to changes in social, political, and economic spheres. As Barbara Harris-White (2005: 9–11) argues, caste regulates our economy and plays a critical role in maintaining historically moulded social relations. We find histories of institutional legitimations for such caste-based stratifications in all religions (Webster 2018; Sikand 2010; Donald 2022). One may call them distortions of the egalitarian creed, yet they exist in practice. Beyond questions concerning the paternity and ownership of caste, it is important to account for how it has been nurtured and sustained across religions—both within and without—a point emphasised (yet not fully acted upon) by the Mandal Commission (Report of the Backward Classes Commission 1980: 55–56).

While religions do mark their symbolic and theological uniqueness, extending these differences to social and economic domains is muddled with problems. When Hindus, Muslims, and Christians share occupations, politics, neighbourhoods, regions, languages, and sometimes kin networks, placing them in silos of egalitarianism and inegalitarianism is empirically and historically inaccurate. In fact, minorities necessarily intermingle with others, within a presumed, everyday ethos of egalitarianism to conduct their lives. During the 2018 Kerala floods, the lower-caste Christian boatman who reached out to a Brahmin family marooned by flood water operated within such a logic. However, by deciding not to enter his boat, even in the face of an unparalleled disaster, the Brahmin family made life inegalitarian for themselves and the boatman (Bajwa 2018). Similarly, during the same floods, the Syrian Christians in a relief camp acted against egalitarianism by denying to share space and food with SCs (Dalit Camera 2018). If caste is explained solely within the ambit of Hindu religion, it would be difficult to understand such inter-religious instances of untouchability.

If egalitarianism is regarded simply as a set of denominational practices, we fall into the trap of identifying believers (or the enlisted) as exclusive religious beings; and religion as an all-encompassing material force. Within such a view, Christians or Muslims do not have to interact with others or each other; their religions will feed, clothe, and company them everywhere. Egalitarianism (or inegalitarianism) is constituted through everyday actions shaped by shared historical factors. It is not a stream that flows exclusively from textual prescriptions, be it the Bible or the Constitution. Hindus, Muslims, Christians and others have all fought for (and even against) egalitarianism, irrespective of their religious truths.

Conversion as Crisis

Further, the move away or into a religion is seen as a disruption, characterised by a total termination of the old and the total embrace of the new. Ethnographic and historical inquiries have convincingly



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+91-11-43580781-84, support@indiastatpublications.com shattered this view. None of the "successful" world religions display doctrinal and social homogeneity. Scholars have pointed out how popular religiosity operates in liminal spaces that often irritate official boundaries. Such spaces, authored mostly by lower castes/classes, have been under constant attack after the modern, straitjacketed classification of faith systems (Lee 2021; Sikand 2004: 166–86). The Bihari, irrespective of religious persuasions, may choose to approach her god by means of shared cultural forms. Thus, one would effortlessly find a *sohar* (lullaby) on Jesus, Mohammad, Ambedkar, or Krishna. Christianity or Islam as social inspirations were often nurtured in such spaces of communication and ambivalence, ripe with possibilities of "conversion." Scholars have firmly established that conversion to Islam and Christianity do not lend themselves easily to narratives of coercion or emancipation (Oddie 1997). Histories of conversion are shaped by complex factors such as imperialism, changes in technology, shifts in administrative boundaries, and land use patterns, improved international commerce, access to new occupations, abolition of slavery, migration, urbanisation, erosion of traditional linkages between labourers and landowners, floods, famines, chronic rural indebtedness, etc (Bugge 1997; Oommen and Webster 2002; Robinson 2003; Sikand 2004; Mohan 2005).

The Dalit or lower-caste convert is not a gullible, non-agential subject who can be easily tricked, coerced, or impressed by the precepts of Islam and Christianity. While the pre-existing systems of exploitation did shape conversion, it cannot be retrieved as a black and white picture. We find "enquirers" disagreeing with missionary ideas of god, ultimately arriving at their own interpretation of Christ (Paul 2021; Oommen 1997). The Kartabhaja converts of Krishnanagar in West Bengal embraced Christianity as they found it closer to their faith system and not as a total break (Oddie 1997: 62). Changes in faith systems can be approached as attempts of rationalisation, as explained by Oddie (1997: 57) with the help of Weber, "measured reordering of belief in line with one's experiences." This seems to be an ongoing process across religions. The modern nation state plays a critical role in such a rationalisation. Interfaith dialogues or confrontations "convert" all parties involved to varying degrees. Thus, conversion is not a one-way traffic. Conversion was never approached as a pill to all caste woes. Further, if we were to agree with T M Yesudasan (2010), conversion ought to be seen as a process of "entry" (*matharohanam*) into modern religions. Such entries have taken place in all religions, Hindus included. Yet, the shifts among Hindus are seen as internal movements and not conversion. The attempt to limit our perspective on conversion fails to account for the novelty of new configurations of identities and practices.

Further, the act of conversion—which is a consequence of complex human interventions (known variously by anti-conversionists as charity, allurement, fraud, force, inducement, etc)—makes religion an earthly institution schooled by human will. The presence of the convert reminds one of the human and material nature of religion. Conversion is always coloured by varying doses of religious scepticism as it involves moments of disbelief. It allows for the questioning of some religions or all religions. Converts complicate standard definitions of religion and reconstitute modern religiosity. They kindle personal and public dilemmas among the "unconverted." The latter try to overcome their dilemma through direct violence, conspiracy theories (like love jihad), or legal dictates against conversion or by simply deepening religious differences. From such a perspective, Dalit Christians and Dalit Muslims are disruptors par excellence. Thus, it is not surprising that several anti-conversion legislations particularly target the conversion of SCs and Scheduled Tribes.

Anxieties surrounding religious conversion shape the exclusion of Christians and Muslims from the SC list. It is feared that the latter's inclusion would encourage conversion and unsettle public sentiments and demographic perceptions. The "Indic" fortification of the list hopes to protect SCs from being converted. Moreover, by framing reconversion rules in 1975 targeting the Dalit Christians and Muslims, the Indian state has reinterpreted "Scheduled Caste status" as an enticement to stay within the Hindu fold (National Dalit Christian Watch 2021: 5).

In Conclusion

The necessary insertion of modern territoriality to classify religions—as native or foreign—lies at the heart of this cultivated disregard for Dalit Christians and Dalit Muslims. It belittles their history as public actors and overrides the fact that oppressed groups have often worked together, irrespective of religious persuasions. The intellectual and organisational labour of Dalit Christians and Muslims have significantly shaped social justice articulations in several parts of India, albeit a tendency to sideline their contributions in mainstream, national genealogies.

When caste becomes a sociocultural theme within Hinduism, its resolutions are sought in the self and social reform. Caste-based reservations and other legal protections become selfless acts of penance by the upper-caste Hindus. Christian or Muslim claims, though accepted with conditions, do not fit well with this reform agenda. Further, the subordination of caste to religion obscures a broader discussion on caste which may lead to comprehensive redistributive policies.

Muslim and Christian castes stand outside reason for scriptural determinism. The messiness of the social is difficult to address but easy to deny. Thus, when Dalit Christians and Muslims approach the court and expose the chaos of transactions with organised religions and describe their social and economic standing, the court is puzzled and is often forced to make contradictory statements. A cultivated national ignorance cannot stand how Dalits and lower castes toyed with ideas and rationalised their religions. These engagements did not follow a single script, nor did it always settle down as some form of paternal inheritance. Conversion, as communicative acts, may not have transformed their economic lives. However, the complications in translating one's "conversion" into upward mobility do not make them failed citizens or incompetent in their faith systems. Rather, this tells us about the limits of religion and the autonomy of caste and class in shaping the lives of Indians.

Dalit Christians and Muslims stand for an empirically sound sociology of religion and caste beyond theological stereotypes. They tell us that religious conversion is not a one-way ticket to castelessness. Rather, through conversions of several varieties, lower castes across religion have pushed for dignity and democracy. It is pertinent to recognise these conversions as an application of human will and reason beyond the fixities of old ways. Dalit Muslims and Christians should not be tied down to their imagined religious communities. The greater share of their everyday marginalisation is transacted in the grammar of caste and class. The postcolonial state has long passed its deadline to recognise the simple fact that Dalit Christians and Muslims have more in common with their immediate neighbours than with the Roman pontiff or the king of Saudi Arabia.

NOTES

1 The Constitution (Scheduled Castes) Order, 1950, known as the presidential order has amended paragraph three twice, in 1956 and 1990, to include Sikhs and Buddhists into its ambit.

2 It was reported as early as May 2022 that the government is planning to set up a commission to study the concerns of Dalit Muslims and Christians. However, to a query raised by the Member of Parliament, Margani Bharat in December 2022, the centre clarified that it has not set up any panel.

3 The initial demand for inclusion were made immediately after the promulgation of the presidential order of 1950 by Christian leaders in the 1950s. In the past 20 years, several parliamentarians from Kerala, Tamil Nadu, Andhra Pradesh, Uttar Pradesh, Punjab, etc, have raised this issue time and again.

4 Chapter nine of the NCRLM discusses arguments in favour and against the inclusion of SC Christians and Muslims in the list. It ultimately concludes that the presidential order should be amended and made religion-neutral. However, the central government has recently rejected the report as empirically unsound.

5 It is also worth noting that subcategorisation of the Scheduled Caste list on a pro rata basis, proportionate to population, has been a long-standing demand of Madiga/Relli communities in Andhra Pradesh.

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Community Radio
Understanding from an Ethnographer's Lens

BIDU BHUSAN DASH

BOOK REVIEWS

Community Radio Policies in South Asia: A Deliberative Policy Ecology Approach by Preeti Raghunath, *Singapore: Palgrave Macmillan, 2020; pp xxiii+₹370 (hardcover).*

Community radio in South Asia is understood from various perspectives, but predominantly from the communication for social change perspective. Though the book is published as part of the *Palgrave Studies in Communication for Social Change*, Preeti Raghunath interestingly engages with community radio policymaking processes and practices while opting for an untrodden research path within the community radio scholarship in the South Asian region. She draws on her extensive multi-sited and cross-country ethnographic fieldwork in four countries of South Asia—Bangladesh, India, Nepal, and Sri Lanka.

Unlike the existing scholarship related to community radios in the region, which primarily engages with the questions of impact, effect, development, empowerment, and participation, Raghunath specifically focuses on understanding the making of community radio policies and the existing practices across the South Asian region (Pavarala and Malik 2007; Jena 2021; Backhaus 2021). Globally, community radio has gained prominence as an effective alternative to the mainstream broadcast media that caters explicitly to communities that are otherwise sidelined and located in media-dark areas. Unlike more established community radio sectors in other developing worlds like Latin America and Africa, countries like Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, Sri Lanka, and the Maldives have been making consolidated efforts to legitimise the community radio sector to strengthen community voices and to address and promote communication rights—media democracy, freedom of expression, and social change (Malik and Pavarala 2021). However, it is often argued that the community radio movement in South Asia has achieved an identity but tasted limited success (Dash 2015). Therefore, the sector is thriving in some South Asian countries while it is also at a nascent stage in a few others. Raghunath's work is the first of its kind in the context of the community radio sector in South Asia because her work looks at its policymaking and practice from the standpoint of policy ethnography. Her work studies the community radio policymaking process in the South Asian countries—Bangladesh, India, Nepal, and Sri Lanka—where community radio footprint is rich in the region.

With an objective to make sense of the large and diverse social, cultural, and political milieus with evolving political scenarios and power corridors, Raghunath quite consciously chooses a critical site, that is, community radio, for this multi-sited policy ethnographic study to develop a more holistic and truly bottom-up understanding about the process of policymaking. While setting the context for the book, she strongly argues that the existing scholarship in global media policy studies predominantly follows a very canonical and top-down approach to study policymaking. Hence, getting a truly bottom-up understanding informed by reflexive ethnographic details is critical. She further states that in the traditional approach to study policymaking, the state is often considered as an administrator in the overall process of policymaking. But what is interestingly missing out is the process that does not count the struggles, deliberations, debates, complexities, and contestations of power that shape policy and policymaking processes. Following the innovative deliberative policy ecology (DPE) approach, Raghunath engages with a host of policy actors, including policymakers, activists, advocates, multilateral organisations, and international agencies, which account for more than 100 interviews, to develop a truly holistic and grounded understanding of policy and policymaking processes.

In total, the book has seven chapters, and Chapter 1 starts with a critical discussion on the status of media policy studies within the larger scholarship of media and communication studies in general and community media studies in particular. She further argues that recently, media policy studies have been recognised as a stand-alone school of thought. As we go deeper into the analysis in this chapter, Raghunath demystifies and unpacks a few interesting ideas, namely deliberative policy analysis and myths of neutrality. She offers a comprehensive understanding of the trajectory of policy studies within media and communication scholarship while addressing the grey areas related to studying media policies. Interestingly, she believes that it is essential to understand media policies and the politics of it as well as around it, and should be looked at together to understand the complexities associated in a more nuanced and critical way. While she initiates the discussion focusing on media and communication studies in general, she later narrows it down to community radio and its policies.

In Chapter 2, Raghunath attempts a very innovative methodological framework, that is, DPE approach to develop a critical understanding of policymaking and the complex processes and practices related to community radio policies in the four South Asian countries. She further argues that it was very much essential to make sense of similarities and differences between the geographies, societies, cultures, political systems, and media ecosystems in the select four countries that have pushed for the emergence of community radio, and these varying and dynamic conditions help the author in developing a new methodological framework (DPE approach) which is informed by her robust reflexive policy ethnographic accounts, rich historical evidence, and contemporary scenes.

Raghunath offers a rich and critical historical account in Chapter 3 that focuses on radio broadcasting in general and community broadcasting in particular in the postcolonial societies and contexts of Bangladesh, India, Nepal, and Sri Lanka. She historicises the emergence of community radio in the selected countries by engaging with important stakeholders, documents, and dialogues that provided the right kind of impetus for the coming of community radio. In this chapter, the author focuses on the culture of community radio governance in South Asia while capturing the varying social, cultural, political, and policy conditions that influence community radio broadcasting.

The next chapter on making the global public sphere reiterates the extreme potentials of community radio as a true community-run, owned, and managed medium to strengthen the voices of communities that are otherwise neglected, marginalised, and sidelined by the so-called popular and mainstream media. Raghunath also emphasises communitarian values based on which community radio broadcasting thrives and how community radio forges a greater sense of community, leading to strengthening and creating public spheres at the grassroots levels. This chapter also tracks the milestones and landmarks in the history of community broadcasting in South Asia, which sets the perfect background for the next chapter that dwells into the policymaking and the overall dynamics involved in it.

Chapter 5 focuses on the author's reflections on policymaking processes and how various actors and players contribute to making a conducive policy framework to promote community radios in South Asia. She further draws from her fieldwork experiences while highlighting the presence of plural policy actors and diversity in narratives of policy practices. These reflections help her to justify that policymaking is not just limited to a process of deliberation and dialogue, instead, it is about emancipation because of the very nature of policymaking and its impact on communities. Moreover, the author quite successfully unpacks the messiness involved in the process of policymaking and how the beneficiaries make sense of the complexities involved in it.

Liminality and Sustainability

The following chapter is based on the ideas of liminality and sustainability, focusing on how the state, civil society organisation, and other stakeholders encounter and negotiate with these ideas to create a favourable ground for community radios to dispense their responsibilities effectively. In this chapter, Raghunath also addresses the questions, politics, and fractures related to policymaking while critically analysing the different historical moorings and contemporary scenes of the community radio sector in the four South Asian countries.

The last chapter concludes Raghunath's quite innovative attempt to study community radio policies and policymaking in four South Asian countries using the DPE approach and multi-sited policy ethnography as a methodological framework. She also talks about the challenges in making community radio policies in South Asia, wherein most of the cases/policies are made considering the development agenda of the state and donor aid agencies. Hence, she argues that these postcolonial policies are outcomes of negotiations with the state's legacy. The author further stresses the ideas of connectedness and comparativity to provide a nuanced understanding of how community radio scenes and conditions in the select countries contribute and complement the growth and prospects of the sector.

Overall, Raghunath has attempted to establish the DPE approach and policy ethnography as new methodological interventions to study media and communication policies, not merely as deliberations as part of the traditional policy studies approach. Instead, one should consider the emancipatory aspects of policymaking processes and practices. While she advocates for a bottom-up understanding of policymaking, her reflections prompt decolonising the traditional and more conventional approach to studying policymaking.

Although concepts like media policy and policy ethnography have become popular in academics since the 1970s, this book is a successful attempt in initiating a dialogue to consider studying policymaking from a global South perspective while being critically informed about the more traditional approaches to media and communication policies. On the methodological ground, Raghunath leaves readers with a couple of new methodological tools and ideas like the DPE approach and policy ethnography to understand and engage with policy and policymaking more comprehensively and organically.

This book is quite engaging, and hence, it might be a helpful reference for the academics, researchers, and those working in the community radio public policy space to understand the complex, rather dynamic, processes of policymaking with all the complexities and politics involved.

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Vellore 1806
A Dress Rehearsal for the 1857 Revolt?

SABYASACHI DASGUPTA

Foreshadowing the Great Rebellion: The Vellore Revolt, 1806 by K A Manikumar, *Hyderabad: Orient Blackswan, 2021; pp 288, ₹695.*

On 13 March 1806, the commander-in-chief of the Madras army issued a general order in which the new standing regulations were published. The new regulations of the Madras army emphatically prohibited native soldiers (or sepoys as they were called) from sporting caste marks on their faces, or for that matter, flaunt earrings or whiskers on parade. Though the regulations had been in vogue for a while, they had not been uniformly followed across the length and breadth of the Madras army, and each regiment was left to its own devices as far as coping with these regulations was concerned. The new order, though, removed all ambiguity on this score and strove to enforce uniformity.

The new order initially led to general discontent among native troops stationed at Vellore fort cutting across barriers of caste and religion. Matters were compounded by the introduction of new turbans, which had leather as a building material, thus affecting the sentiments of both Hindus and Muslims as leather was considered polluting by both communities. Moreover, the sepoys claimed that the new headgear resembled the one worn by the avowedly "lowly" and "half-caste" drummers in the regiments. Discontent now assumed an overt form, though not violent in tenor. On 6 May 1806, the sepoys of the second battalion 4th regiment refused to wear the new turbans. The tension had burst forth into the open and the air was now rife with rumours of fakirs roaming around and staging puppet shows that exhorted the sepoys to kill their European officers. Things were now poised on a razor's edge and finally on 10 July 1806, an open mutiny broke out with a large number of native sepoys and officers attacking the European troops and their officers stationed in the fort. Reinforcements, though, arrived from nearby Arcot around 9 am and quelled the mutiny by the native troops, thus setting an end to the first major mutiny in the company armies, namely the Vellore Mutiny of 1806.

Forerunner of the Revolt of 1857?

The Vellore Mutiny created a huge sensation and attracted the attention of contemporary observers and generated a slew of eyewitness accounts. Subsequently, there would be a host of scholarly works on the mutiny. K A Manikumar's monograph is the latest in a long series of scholarly works on the Vellore Mutiny. Manikumar essentially argues that the Vellore Mutiny was much more than a mere military mutiny. It had definite political objectives and was part of a larger political movement criss-crossing the boundaries of caste and religion, which aimed to overthrow British rule in southern India. The dispossessed chieftains and dynasties had never reconciled to British hegemony over the southern part of the subcontinent. The sepoy unrest over the new regulations provided them with an opportunity to plan an insurrection.

The notion of a political conspiracy was bandied about in official circles in the aftermath of the mutiny as colonial officials ascribed it to the presence of the late Tipu Sultan's family stationed in Vellore fort. In contrast, Manikumar is hinting at a larger involvement of the dispossessed indigenous ruling elite of South India. Coupled with that was the discontent among the common populace of who hated the British. Manikumar stresses on the agrarian distress in large parts of South India and particular in the areas around Vellore, thereby discomfiting the general populace. Adding to their woes were the extravagant land revenue demands of the East India Company. This led to large numbers of men from landowning families in agriculturally depressed regions of South India joining the Madras army.

Manikumar thus seeks to link up the disgruntlement of the sepoys to larger political issues. Manikumar also lists certain long-term and relatively short-term professional grievances of the sepoys, which served to add grist to the mill. The sepoys were avowedly discontented over stationary wages, slow promotion, and the racial arrogance of the new generation of European officers. The publication of the new standing regulations served to exacerbate a situation that was already on the boil. A question, though, arises as to why did the mutiny break out in Vellore in the first place. Admittedly, disturbances broke out subsequently in other cantonments of the Madras Presidency as well. But they were all nipped in the bud, thereby averting a wider conflagration engulfing large parts of South India. The defiance of the sepoys at Vellore in 1806 could well have been the forerunner of an upsurge akin to that of the Great Rebellion of 1857.

Mutiny or Popular Uprising

Thus, one may concur that the Vellore insurrection missed the bus. It could have—with a bit of luck—triggered off a widespread rebellion, which could have well-earned itself the appendage of the "first war of independence." Manikumar, though, hints that notwithstanding the Company's success in suppressing the defiance of the sepoys in the other cantonments at a very incipient stage, the Vellore Mutiny nevertheless could be dubbed as a forerunner to the revolt of 1857. Indeed, he makes it amply clear in the title of his monograph that the Vellore Mutiny foreshadowed the great rebellion approximately 50 years later. Manikumar does not go as far as to dub the rebellion as the "first war of independence," though, I suspect, he would have liked to do so.

Manikumar is indeed not the first scholar who would strive to describe the heroic stand of the sepoys at Vellore as a forerunner of 1857 or even as the first war of independence. The reviewer has already made his stand clear on this score, and one feels that it is time one moves to other aspects of Manikumar's hypothesis, though these revolve around the fundamental tenets of his argument, that the uprisings, chiefly at Vellore and other stations, were part of a wider movement with a definite political objective of extinguishing British rule in South India. The upheaval, according to Manikumar, had the widespread support of the dispossessed indigenous ruling elite and the general populace. It is undoubtedly a charming proposition but Manikumar does not sustain it in any way.

For one, there is simply no proof that the uprooted indigenous elite were in touch with the rebel sepoys. Manikumar does not supply us with any oral or written evidence on this point apart from some circumstantial evidence pointing to the involvement of Tipu's family in the dramatic events at Vellore fort. Again, he is hardly the first to argue that Tipu's family played a part in the heady happenings at Vellore fort. Many more, including this reviewer, have argued along the same lines. Therefore, Manikumar's argument that the rebel sepoys had the support of the defeated indigenous elite simply has no empirical basis to rest its case. While one is not denying the possibility, it requires concrete evidence to make a firm affirmation along these lines.

Moving along to the issue of mass support, there is no doubt that several areas in South India were experiencing agrarian distress in the initial years of the 19th century. The excessive revenue demands of the British further exacerbated the situation. Under these circumstances, the existence of a deep discontent among the masses was a distinct possibility. Notwithstanding all these factors, the hard truth remains that there was no participation of the civilian populace in the upheaval at Vellore or the nebulous upheavals at the other cantonments. There is no recorded civilian–sepoy connect in any of these cases. There might have been covert support for the sepoys among the masses. Maybe, one would have evinced overt support and indeed participation by the general populace if the rebellion at Vellore had run a longer course or the uprisings at the other centres had not been crushed in their infancy. These are, though, the ifs and buts of history. The hard truth remains that there was no visible support for the rebellion at Vellore and other places in 1806.

What were then the extraordinary series of events at Vellore and other centres in 1806? Was it merely a military mutiny? Did the native sepoys harbour long-term grievances against the British? Or were the new standing regulations and the introduction of the new headgear a short-term provocation which assumed overwhelming proportions? The answers to these questions are not simply black and white. The sepoys, no doubt, had some long-term grouses. Promotion was slow and the pay stationary over extended periods of time. Matters were further compounded by the racial arrogance and aloofness of the new generation officers who hardly knew any of the Indian languages. This led to a further estrangement between the sepoys and the European officers. The earlier personalised system of command, while hardly being perfect in its functioning, at least provided for enhanced interaction with the native soldiery. Moreover, the older generation officers had a good grip on Indian languages.

Thus, there were certain niggling long-term issues that played on the mind of the native soldiers. There were, though, extenuating factors that compensated for these irritants. Manikumar neglects to dwell on the fact that the infantry regiments of the Madras army, after showing an initial preference for recruiting high castes, increasingly sought to recruit middle and lower castes in large numbers. By the turn of the 19th century, the infantry units of the Madras army were dominated by middle- and lower-caste Hindus along with a good number of Muslims. The number of high-caste recruits increasingly dwindled as the Madras colonial establishment found them to be a bit oversensitive with regard to their religious beliefs. This dominance of the middle and lower castes had important consequences for both the army and these recruits for it empowered these recruits and endowed them with a new-found notion of honour and self-respect. The Company uniform bestowed on them status and privileges that they were not accustomed to before. The native elite could henceforth not ride roughshod over them. Yet, the reader may ask whether this new-found status and notions of honour impeded the large-scale participation of intermediate and lower-caste recruits in the Vellore Mutiny. Why was it so? Why did these recruits revolt against the East India Company if military service had empowered them in the first place?

The answer may lie in the fact that the new regulations threatened these very notions of status and honour, which these recruits had so assiduously cultivated. This made them react with a vengeance. They would not surrender their status, privileges, and honour without a bloody fight. Once they crossed the psychological barriers and resorted to open and violent defiance, the resistance in Vellore acquired a momentum of its own and inscribed certain political objectives. The sepoys may have harboured designs of proclaiming the eldest son of Tipu as their ruler and of extinguishing British rule in India. It is possible that the sepoys at Vellore were in touch with soldiers in other cantonments. The abortive attempts at revolt in other centres possibly indicate along these lines. There is, though, no evidence of the sepoys being in touch with other sections of the erstwhile ruling elite in South India apart from circumstantial evidence hinting about their dalliances with Tipu's family lodged in Vellore fort.

In Conclusion

To conclude, certain disagreements aside, I have no hesitation in affirming that Manikumar has written a very fine book. The book is rich and contains intricate details about the circumstances and events leading to the mutiny, the way it actually played out at the ground level, and its aftermath. Manikumar also raises several important questions, though he does not always supply us with the answers. Nevertheless, the author's effort will stir all researchers on the Vellore Mutiny out of their comfort zone and force them to look anew at various aspects of the extraordinary sequence of incidents at Vellore and its postscript. To put it in a nutshell, Manikumar's book is a must read for all those who are interested in the history of colonial South India and the colonial Indian army.

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Perceived Economic Well-being among Rural Indian Households

Investigating the Role of Remittances

SHREYA NUPUR, MEGHNA DUTTA

The Census 2011 estimated the presence of 450 million internal migrants in India, which is an increase of 45% over the Census 2001. As a corollary, the domestic flow of remittances has seen a significant rise. This paper aims to understand how this financial support affects the perceived economic well-being of households in rural India. The analysis shows that the recipient family's estimation of their economic status improved dramatically after receiving these payments. It discusses the importance of frequency of receiving the remittances in order to understand the impact on the economic sentiment. For households who got continuous payments over the study period, the effect is positive and appears to be stronger.

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Over the last few decades, India has seen a massive occupational shift away from agriculture, accompanied by an emerging trend of labour migration as an alternative livelihood strategy (Choithani et al 2021). The migration process is a mutual contract between the migrant and the remaining household members at the place of origin (Stark 1991; De Haas 2010), and the migrants maintain close ties with the household members they leave behind by sending back a portion of their earnings, known as remittances (Datta 2016). This remittance inflow funds a significant portion of household health and educational expenditures (Mahapatro et al 2017). Over the last few decades, developing countries, such as India, have seen a significant increase in inward remittance flows to the rural areas. By 2017, India had become the largest recipient of remittances, amounting to $69 billion (World Bank 2018). Domestic remittances were estimated to be $10 billion in 2007, with 80% directed to rural households and accounting for nearly 30% of consumption expenditure in households left behind (Tumbe 2011; Rahman and Mishra 2020).

What effect does remittance inflow have on the well-being[1] of households that remain in their place of origin? Well-being being a multifaceted and diverse concept enables scholars to assess it in a variety of ways, including needs and capabilities (Sen 1999), vulnerability and livelihood strategies (Bebbington 1999), and self-reported or subjective assessments of their quality of life (Diener 2006). To assess well-being, researchers have used both subjective and objective methods (Sulemana et al 2019). The objective measures are based on quantifiable indicators such as health and education spending, income, asset accumulation, and so on. The majority of the existing literature examined the impact of remittances on objective measures of welfare, such as consumption, investment, health status, educational attainment, poverty, labour force participation, and so on (Anderson 2014). Adams and Page (2005) revealed that receiving remittances has a significant impact on poverty reduction in 71 developing countries. Several other studies found that remittances had a positive impact on household poverty status and consumption expenditure (Nguyen et al 2017). Furthermore, some evidence suggests that households use remittances to acquire assets and invest in business activities (Mahapatro et al 2017). Scholars such as Das et al (2020) observed that households invest significant amounts of remittances in human capital as a long-term investment, such as healthcare and education.

While economic and social indicators show the objective measures of well-being (Ahrendt et al 2015), subjective measures reflect an individual's self-evaluation of their life (Diener 2006). The latter covers various types of self-evaluation of specific domains such as income, health, work, etc (Diener 2006; Steptoe et al 2015). However, the direct or self-reported measure of well-being are arguably better, as they go well beyond the real income aspects of welfare (Kahneman and Krueger 2006; Deaton 2018). Social scientists only lately began studying the relationship between remittances and subjective well-being. Findings from the pioneering works (Ivlevs et al 2019; Anderson 2014; Semyonov and Gorodzeisky 2008) show that migrant remittances have a significant positive impact on the subjective well-being of both the migrant and the origin household.

Although scholars across India have extensively investigated the effects of remittance on a range of development indicators, the potential impact on perceived economic well-being has largely gone unnoticed. Most study the remittance-development linkage using objective welfare indicators. Ratha Dilip (2006) and Parida et al (2015), for example, investigated the impact of remittances on various categories of household expenditure and concluded that remittance-receiving households are more likely to spend on non-food items. Similarly, Das et al (2020) demonstrated that, due to higher healthcare expenditure, remittance-receiving households are less vulnerable to out-of-pocket health expenditure than non-receiving households. Studies have also highlighted the impact of remittance on education spending in long-term human capital investments (Parida and Madheswaran 2011).

This study contributes to remittance and development literature in four ways. First, existing studies on the impact of remittances on household well-being are primarily based on the sporadic nature of remittances (Parida and Madheswaran 2011; Tumbe 2011) and has virtually ignored the potential impact of the persistent nature, which is likely to alter the recipient behaviour in a different manner than intermittent flow. Second, most research has examined how remittances affect well-being through macro indicators like health and education spending, income and wealth growth, and so on (Ratha 2006; Parida et al 2015; Mahapatro et al 2017). Third, internal migration is crucial for most developing nations, particularly India and China, which have over 800 million internal migrants. Nevertheless, the developmental impact of internal migration is often underestimated (IOM 2018). Thus, investigating its economic consequences through remittances is crucial (Deshingkar 2010; Nayyar and Kim 2018; Choithani et al 2021). Finally, the prevalence of rural-to-urban migration in India (Srivastava 2012; Keshri and Bhagat 2012) necessitates us to focus on rural households.

Given this backdrop, the present study concentrates on remittance-receiving households' self-reported or perceived economic well-being. To that end, the study intends to investigate two questions: first, whether receiving remittance improves the perceived economic well-being of rural Indian households; and second, whether variation in their frequency have any differential impact on the well-being of rural Indian households.

Table 1: Summary Statistics of Studied Variables

Variables	Mean/Percentage	SD Observations
Panel A: Outcome variable		
Perceived economic well-being		
Worse	10	26,206
Same	55	26,206
Better	34	26,206
Panel B: Explanatory variables		
(1) Remittance receiving status (Ref: No)		
No	84	26,680
Yes	16	26,680
(2) Remittance persistence (Ref: Not received)		
Not received	80	26,680
Sporadic	16	26,680
Persistence	04	26,680
Control variables		
Household head gender (Ref: Male)		
Male	86	26,680
Female	14	26,680
Education of head (Ref: No education)		
No education	69	26,509
Primary	11	26,509
Secondary	13	26,509
Metric	04	26,509
College and above	02	26,509
Income level (Ref: Poorest)		
Poorest	25	26,680
2nd quintile	20	26,680
3rd quintile	21	26,680
4th quintile	18	26,680
5th quintile	16	26,680
Social groups (Ref: Forward caste)		
Forward caste	19	26,673
OBCs	36	26,673
Dalit	23	26,673
Adivasi	11	26,673
Muslim	09	26,673
Christian, Sikh, Jain and others	02	26,673

Source: Estimation based on IHDS-I and II surveys (2005 and 2012).

Data and Variables

The current study makes use of data from the India Human Development Survey (IHDS) (Desai 2011), which was conducted in 2004–05 and 2011–12. The IHDS drew nationally representative samples from 384 districts, 1,420 villages, and 1,042 urban blocks spread across 33 Indian states and union territories using a stratified random sampling technique. This survey was conducted in two phases: the first round (IHDS-I 2004–05) collected data from 41,554 households and the second round (IHDS-II 2011–12) covered 42,152 households (Desai and Vannemann 2018; NCEAR 2012). The IHDS is India's first large-scale household survey, providing detailed information on a variety of socio-economic variables. The survey included 83% of the households that took part in both rounds, creating a panel data set of 34,621 households. It is the only data set that includes information on migration, remittances, and economic well-being along with other household characteristics, allowing us to examine well-being conditions from a broader perspective. Because migration from rural areas is common in India (Srivastava 2012), we restricted our sample to "rural households," which accounted for 66% of total households.

The final data set included 26,680 rural households from both the rounds. Attrition, which is a common phenomenon in longitudinal studies, is present in this study too and is about 17%. However, as mentioned above, since we have considered only rural households, the attrition rate is relatively lower at 9% between the two rounds of survey (Rajkhowa and Qaim 2022). Thus, we do not anticipate attrition bias in this analysis.

The measure of subjective economic well-being: Subjective economic well-being refers to respondents' perceptions about their own economic performance over time. In alignment with this definition, the IHDS asked the respondents the following question in 2012: "Compared to 7 years ago (2005), would you say your household is economically doing the same, better, or worse today?" We used ordered responses for this question, coded as "0" for worse, "1" for same and "2" for better, as a measure of perceived economic well-being, which is the outcome variable. The advantage of measuring subjective economic well-being is that it prompted respondents to assess their conditions in subjective terms, based on their own perception of their economic circumstances compared to the past. About 34% of rural households reported betterment in their economic well-being in the last seven years, from 2005 to 2012 (Table 1, p 34).

Construct of the variable remittance-receiving status: For each household, we studied three variables to understand the characteristics of remittance received: first, a binary indicator showing whether a household received remittances in the last year (following Ivlevs et al 2019; Dary and Ustarz 2020). Second, a categorical variable to represent the sporadic or persistent nature of remittance taking the value "0" if the household did not receive remittance in any of the survey years, "1" if received either in 2005 or 2012 (sporadic), and "2" if received in both years (persistent). It is observed that 16% of families received remittances only in one survey year (2005 or 2012), and 4% in both the years (2005 and 2012) (Table 1). Third, we consider the log of monetary value of remittance received. The third variable we use mainly as an alternate measure to check the robustness of our results.

Control variables: While our primary goal is to understand the impact of remittance-receiving status on the economic well-being of rural households, we have also considered other confounding factors as socio-economic and demographic characteristics, major shocks, and household information access, household head's age, gender, and education (Table 1). In our data, 14% of families were headed by women, and 69% were illiterate. An average household size was five, with two working members. Sample includes 19% General Castes, 36% Other Backward Classes,[2] 23% Dalits, 11% Adivasis, 9% Muslims, and 2% other religious households. Further, 40% of the households were in the second and third income quintiles, 18% in the fourth, and 15% in the highest.

The information by household economic well-being and remittance-receiving status is presented in Table 2. An improvement in economic condition was reported by 38% of remittance-receiving households, compared to 33% non-recipients.

Table 2: Economic Well-being According to Remittance-receiving Status of Households

Variables	Receiving Remittance (percentage)	Not Receiving Remittance (percentage)
Economic well-being		
Worse	10	10
Same	52	57
Better	38	33
Observations (in numbers)	4,195	22,485

Source: Estimations based on IHDS-II survey (2012).

Empirical Strategy

This section develops the empirical framework for investigating the relationship between remittance-receiving status and rural households' perceived economic well-being. However, while establishing this causality, it is crucial to keep bidirectional causality in mind (Sulemana et al 2019). The instrumental variable technique is used to address the possibility of endogeneity between remittances received and perceived economic well-being. The primary condition for the choice of instrument should be its strong correlation with remittance-receiving status (endogenous variable), but it should have no direct impact on households' perceived economic well-being (Wooldridge 2010). In our case, access to mobile phone and migration network satisfies the conditions.

A recent advancement in India is mobile money, which allows people to exchange money through telecommunication networks. Mobile phones are increasingly becoming ubiquitous in the country, with cheap mobile data packs encouraging people to use digital financial services (Press Trust of India 2019; Rajkhowa and Qaim 2022). The pandemic has further accelerated this process. Mobile phone ownership can facilitate faster and easier remittance flow and having a mobile phone increases the amount and frequency of remittances received (Dary and Ustarz 2020). While owning a mobile phone may improve households' remittance-receiving status, merely possessing a device is unlikely to have or reflect a direct impact on perceived economic well-being of households.

The second instrument is whether households historically had migrant members, indicating the presence of a network effect that accelerates migration (Mckenzie and Rapoport 2007). The migration network can be expected to have a direct impact on receiving-remittances but no direct impact on rural households' perceived economic well-being (Rivera and Gameren 2021).

Due to the binary nature of our endogenous variable and ordered dependent variable, standard OLS estimation is likely to produce biased estimates. Thus, following the approach by Rivera and Gameren (2021), we account for the binary and ordered nature of the prime variables using two equations. The first stage equation describes the link between the ordered nature of perceived economic well-being and remittance-receiving status (RRS). The first stage equation is specified as:

$$Y_i = \beta_0 + \beta_1 (RRS_i) + \beta_2(X_i) + D_i + \varepsilon_i \quad \dots (1)$$

Where Y_i denotes the perceived economic well-being of household i taking ordered value 0 for "worse-off," 1 for "just the same," and 2 for "better-off," RRS_i is the remittance-receiving status of households, X_i represents a set of control variables and D_i is state dummy.

The second stage links the endogenous variable RRS_i to the two instruments (Z_i) and controls. To describe this, we specify equation 2:

$$RRS_i = \alpha(X_i) + \gamma(Z_i) + \eta_i \qquad \text{... (2)}$$

Error terms ε_i and η_i were assumed to be normally distributed, implying that equations 1 and 2 can be estimated jointly using a recent version of the conditional mixed process (CMP) technique, which is designed specifically for estimations where the main variable and dependent variable are not continuous (Roodman 2011). Furthermore, since receiving remittances are not random, they are based on observable and possibly unobservable characteristics that may affect the outcome variable, so we cannot rule out a correlation between predictors and error term. Consequently, we also report the fixed effect (FE) estimates which control for time-invariant unobserved heterogeneity (Wooldridge 2010).

Results and Discussions

Before discussing the obtained estimates, we briefly explain the need for Instrument Variable (IV). The rho (Tables 3) exhibits the correlation between the error terms of the two equations (first stage and second stage) depicted in the model. Atanhrho, on the other hand, is an arc-hyperbolic tangent of rho. The significance test for rho is equivalent to the significance test for Atanhrho (Lai 2015). The Atanhrhos in Table 3 are highly significant, indicating that there is a significant correlation between the error terms of the two equations, implying that the instrumental variable estimation technique

Table 3: Estimates for the Impact of Receiving Remittances on Perceived Economic Well-being

Variables	Fixed Effect		IV Ordered Probit	
	(1)	(2)	(3)	(4)
Remittance received				
(Ref: No)				
Yes	.065 ***		.842 ***	
	(.011)		(.145)	
Remittance persistence				
(Ref: Not received)				
Sporadic		.051 ***		.161 ***
		(.013)		(.045)
Persistent		.132 ***		.366 ***
		(.018)		(.082)
Social groups				
(Ref: Forward caste)				
OBC	-.009	-.0002	-.005	-.0004
	(.015)	(.015)	(.024)	(.025)
Dalit	-.067 **	-.065 **	-.115 ***	-.126 ***
	(.025)	(.025)	(.026)	(.026)
Adivasi	-.019	-.018	-.027	-.033
	(.032)	(.032)	(.032)	(.034)
Muslim	-.024	-.023	-.053 *	-.046
	(.025)	(.025)	(.033)	(.036)
Others (Sikh, Jain, Christian)	-.008	-.009	-.021 *	-.121
	(.025)	(.024)	(.059)	(.067)
Household head education				
(Ref: None)				
Primary (1–4)	.057 ***	.056 ***	.112 ***	.114 ***
	(.019)	(.019)	(.027)	(.028)
Secondary (5–8)	.058 ***	.058 ***	.117 ***	.117 ***
	(.015)	(.015)	(.025)	(.026
Metric (9–10)	.052 **	.051 **	.096 **	.103 **
	(.028)	(.028)	(.044)	(.044)
College and above (>10)	.071 **	.071 **	.144 **	.144 **
	(.037)	(.037)	(.063)	(.065)
Income quintiles				
(Ref: Poorest)				
Second	.029 *	.029 **	.029 *	.054 **
	(.014)	(.014)	(.025)	(.025)
Middle	.100 ***	.100 ***	.143 ***	.192 ***
	(.023)	(.022)	(.026)	(.026)
Fourth	.155 ***	.155 ***	.214 ***	.298 ***
	(.023)	(.022)	(.029)	(.028)
Richest	.285 ***	.285 ***	.482 ***	.576 ***
	(.026)	(.025)	(.034)	(.033)
Household shocks				
Major illness				
(Ref: No)z				
Yes	-.040 **	-.040 **	-.087 ***	-.084 ***
	(.015)	(.015)	(.019)	(.018)
Drought, flood, fire				
(Ref: No)				
Yes	-.015	-.015	-.028	-.034
	(.029)	(.029)	(.029)	(.027)
Job loss (Ref: No)				
Yes	-.112 **	-.114 **	-.221 ***	-.282 ***
	(.045)	(.045)	(.061)	(.057)
Household organisation				
Number of people in the household	-.024 *	-.004 *	-.035 *	-.009 **
	(.011)	(.002)	(.019)	(.005)
Number of working adults in the household	.025 ***	.025 ***	.070 ***	.053 ***
	(.007)	(.006)	(.010)	(.009)
Household head gender				
(Ref: Male)				
Female	-.085 ***	-.091 ***	-.313 ***	-.120 ***
	(.023)	(.022)	(.040)	(.031)
Household head age	-.006	-.0005	-.007 *	-.001
	(.002)	(.001)	(.004)	(.003)
Household head age square	.00003	.00001	.00004	.00001
	(.00001)	(.00001)	(.00003)	(.00003)
Household media exposure	.032 ***	.032 ***	.061 ***	.063 ***
	(.005)	(.004)	(.004)	(.004)
Acquaintance with government	.107 ***	.108 ***	.228 ***	.226 ***
	(.027)	(.027)	(.029)	(.029)
Conflict in community	-.012	-.012	-0.21	-.023 *
	(.025)	(.025)	(.017)	(.018)
State dummy	Yes	Yes	Yes	Yes
Cut 1			-.9125 ***	-.8150 ***
Cut 2			.8802 ***	1.026 ***
Atanhrho_12			-.2353 ***	-.0393 **
Rho_12			-.2310	-.0393
Wald chi-square			5,988.68 ***	13,312.91 ***
Log likelihood			-22,142.923	-25,677.884
F-statistics	1,173.36 ***	461.54 ***		
Observations	19,819	19,819	19,819	19,819

*p < .10, **p < .05 and ***p < .01. Robust standard errors indicated in parentheses.
Source: Authors' calculation based on IHDS data set (2005 and 2012).

is appropriate for this study. The Wald Chi² statistic, which tests for model specification, is highly significant at the 1% level. Furthermore, the instruments used—mobile phone ownership and migration network are significant at the 1% level.

The likelihood that households will be economically better off based on their remittance-receiving status is depicted in Table 3. Models 1 and 3 present the impact of remittance received, while Models 2 and 4 present the results for persistent nature of remittance.

The results of IV ordered probit model show that households which receive remittances are much more likely to be economically better off than those that do not. These findings underscore the importance of remittances as a financial instrument for rural households to enhance their economic well-being (Andersson 2014; Semyonov and Gorodzeisky 2008; Ivlevs et al 2019). Receiving remittance removes financial uncertainty and constraints, thereby raising well-being (Rojas 2009). However, estimates in Model 4 show a stronger impact of remittances on perceived economic well-being implying that persistent remittance flow adds to the household income, improving the standard of living and their perceived well-being much more compared to a one-off inflow of remittance (Adams and Page 2005; Ratha 2006). Further, receiving persistent remittance increases recipients' social status and prestige in their community (Ivlevs et al 2019), which can have an impact on households' well-being perception. Finally, if remittances flow in continuously, it is likely to be channelled into more productive uses, such as investment, health and education (Tumbe 2011).

Dalits (Scheduled Castes), Adivasis (Scheduled Tribes), and other historically underprivileged groups benefit less from remittance flow or its persistence, compared to the general or forward castes (Table 3). This finding confirms the vulnerability of Dalits and Adivasis and their higher risk of falling into poverty (Kulkarni et al 2021; Thorat et al 2017). Those with primary and higher education were more likely to improve their economic well-being than those with no schooling. All subsequent schooling groups have positive and substantial estimates, corroborates the existing pattern (Kulkarni et al 2021). Overall, additional years of schooling are significantly supportive in improving households' perceived economic well-being.

Household size and working adults both had statistically significant coefficients. With more family members, households reported poorer economic well-being. Whereas, an increase in the number of working adults has a positive and significant impact on improving the economic conditions. In larger families, more money is spent on needs than improving the standard of living. Women-headed households have a negative and significant association with subjective economic well-being.

Although a household's exposure to mass media and its function in effecting perceived economic well-being is at an infant stage, this study has incorporated exposure to radio, television, and newspapers in its evaluation. Exposure is recorded by the responses "never," "sometimes," or "regular use." Mass media creates prospects in domestic and overseas labour markets (Nayyar and Kim 2018). Our analysis confirms that media-exposed households have a higher economic well-being. Similarly, knowing influential people, such as politicians, increases the likelihood of reporting higher well-being. Since social ties improve information assimilation among families (Oster and Thomton 2012), they can offer economic prospects in the domestic labour market and enhance one's subjective economic well-being.

We employed income quintiles as a proxy for households' economic conditions and found that upper quintile households were more likely to perceive economic improvement than lower quintile households from remittance. This effect is stronger for high-income households. Major external shocks can cause economic upheaval in poorer households by increasing out-of-pocket health expenditures. Such households are less likely to report economic improvement. Estimates of shocks in terms of expenditures caused due to major illness and job loss are negative and highly significant in effecting household's economic well-being.

Robustness Tests

We conducted three sets of robustness analysis. We reanalyse the data considering an alternate measure of remittance received. We take the natural log of monetary value of remittance received. The estimates remain consistent with the previous findings (Table 4).

Table 4: Estimates of the Impact of Amount of Remittance on Perceived Economic Well-being

Variables	Fixed Effect	IV Ordered Probit
Log (remittance amount)	.073 *** (.011)	.801 *** (.138)
Controls	Yes	Yes
State dummy	Yes	Yes
Atanhrho_12		-.2158 ***
Rho_12		-.2125
Wald chi-square		6,365.26 ***
Log likelihood		-68,429.137
F-statistics	1,309.42 ***	
Observations	19,819	19,819

*p < .10, **p < .05 and ***p < .01. Robust standard errors are indicated in parentheses.
Source: Authors' calculation.

Propensity score matching: If remittances are not random, our analysis can be biased. Unique observable characteristics of migrants or households may cause sample selection bias. We employed Rosenbaum and Rubin's (1983) propensity score matching technique to reduce this bias. We calculated the probability of each household receiving remittances based on their observable features. The propensity score is conditioned on observed qualities X and is indicated as:

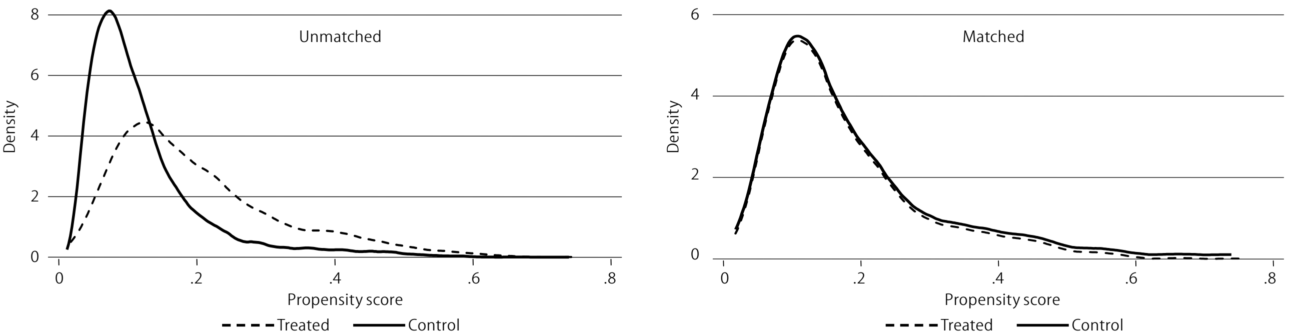
$$p(X) = pr[t=1|X] = E[t|X] \quad \ldots (3)$$

where t denotes the variable remittance (treatment). The Average Treatment Effect (ATE) of receiving remittances on economic well-being was estimated after verifying the conditional independence and common support assumptions. The ATE is defined as follows:

$$ATE = E[y_1 \mid t=1]-E[y_0 \mid t=1] \quad \ldots (4)$$

where y_1 denotes the observed outcome of remittance-receiving households, and y_0 denotes the observed outcome for households not receiving remittances. The second term in

Figure 1: Kernel Distribution of the Propensity Scores



Source: Estimations based on IHDS data set (2012).

Table 5: Estimates of the Impact of Remittances on Objective Economic Well-being (OEW)

Variables	(1)		(2)		(3)	
Outcome: Growth in Consumption Expenditure Per Capita (OEW)	OLS	FE	OLS	FE	OLS	FE
Remittance (Ref: No)						
Yes	11.57 ***	11.57 ***				
	(3.26)	(3.42)				
Remittance persistence (Ref: Not received)						
Sporadic			9.301 **	9.301 ***		
			(3.33)	(3.35)		
Persistent			11.501 *	11.505 *		
			(6.12)	(7.47)		
Log of remittance amount					1.412 ***	1.413 ***
					(.346)	(.398)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
State dummy	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.042	0.027	0.042	0.027	0.042	0.027
F-statistics	28.41 ***	122.24 ***	27.96 ***	369.24 ***	28.40 ***	199.24 ***
Observations				26,505		

*p < .10, **p < .05 and ***p < .01. Robust standard errors in parentheses.
Source: Authors' calculation based on the IHDS dataset (2005 and 2012).

equation 4 ($E[y_0|t=1]$) represents the potential outcome of the remittance-receiving households if it had not been received.

The propensity score was calculated using logistic regression, which predicted the likelihood of households receiving remittances. The treatment group (those who get remittances) was matched with the control group (those who do not) using nearest neighbour matching (NN) technique. We used the closest propensity score to choose one control group observation for each treatment unit. The Kernel distribution of propensity scores before and after matching is shown in Figure 1. Both panels indicate post-matching balance between each treatment and control pair, correcting for selection bias.

Further, we tested the ATE of remittances using nearest neighbour matching and inverse probability weighting. The results from ATE show that remittance improves household economic well-being by 7% to 8%, confirming our prior findings.

Alternate measure of economic well-being: We complement the subjective indicator with objective measures of economic well-being to test the reliability of results. Objective economic well-being is most effectively gauged by per capita consumption expenditure (Jain et al 2012). Thus, the study calculated per capita consumption growth over the two survey rounds (2005 and 2012). Using this as our outcome variable, we estimated the impact of remittances on economic well-being (Table 5). The result complements our findings.

Conclusions

This analysis is not without limitations as there are information gaps. For instance, the migrants' data comes from their households whereas individual data would have enriched this observations. The baseline, IV ordered probit model, and fixed effect (FE) estimators show that remittance inflow has a positive and significant impact on households' perceived economic well-being, particularly when it is persistent. Remittances can improve households' economic conditions by raising income, investment, and human capital spending (Ratha 2006; Tumbe 2011; Mahapatro et al 2017; Ivlevs et al 2019). They are an important source of external finance for rural households in India as it funds a major portion of their consumption expenditure. Therefore, it is important that policies should simplify and lower the remittance transaction costs. While remittances have a large positive impact on perceived economic well-being of the migrant households, it is equally important to stimulate economic prospects and development in the emigrant's place of origin. Remittances should be viewed as a stimulus for well-being, and not as a substitute for the state's obligation to create jobs and provide public goods.

NOTES

1 Well-being concerns how individuals act in ways that make them feel well and help exercise agency (Taylor 2011). Focus on well-being allows us to consider non-rational action and "fully rounded humanity" contrary to welfare which is a narrower concept focusing on economic utility.

2 Other Backward Classes (OBC) is an official or administrative term to classify castes that are educationally, economically or socially disadvantaged.

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Revenue Shortfall and GST Compensation
An Assessment

SACCHIDANANDA MUKHERJEE

The states that will suffer the maximum revenue impact if the expected goods and services tax collections do not improve in the coming years, are identified. The pre- and post-GST buoyancy of the states is compared to understand the possible outcome. The likely revenue requirement for servicing the accumulated special market borrowings of the union government is assessed.

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In the 41st meeting of the Goods and Services Tax (GST) Council held on 27 August 2020, the demand for GST compensation by the states was projected to be ₹3 lakh crore in 2020–21. Given the projected GST compensation cess collection of ₹65,000 crore, the shortfall in GST compensation fund was expected to be ₹2.35 lakh crore in 2020–21. Out of the total projected shortfall of ₹2.35 lakh crore in the GST compensation fund, the shortfall arising out of the GST implementation was estimated to be ₹97,000 crore and the rest of the amount (that is, ₹1.38 lakh crore) is attributed to the COVID-19 pandemic. After the 41st meeting of the GST Council, the union government borrowed the revenue shortfall on account of GST implementation as a back-to-back loan against the Government of India (GoI) securities under a special window. The interest on the borrowing under the special window will be paid from the GST compensation cess collection as and when it arises until the end of the GST transition period (July 2017 to June 2022).[1] After the GST transition period, the principal as well as the interest will be paid from the proceeds of the GST cess, by extending the cess collection beyond the transition period for any such period as may be required.

To compensate states for the shortfall in state GST (SGST) collection (including interstate GST [IGST] settlement on the SGST account) vis-à-vis projected SGST collection in 2020–21, the union government has borrowed (as a back-to-back loan) ₹1,10,208 crore against the GoI securities of five-year and three-year tenures.[2] The borrowed amount is passed on to states and union territories with legislature as a special borrowing scheme and it will be serviced by the union government from the revenue that will be generated from the GST compensation cess collections. During 2020–21, the states had received ₹1,36,988 crore as GST compensation from the GST compensation fund and ₹1,10,208 crore under the special borrowing scheme (Table 1, p 41). The total GST compensation cess collection during 2020–21 was ₹85,191.91 crore.

Prior to 2020–21, the states received GST compensation from the GST compensation fund. The demand for GST compensation is rising over the years (Table 1) and a part of the rise is attributed to reductions of GST rates for several commodities after the introduction of GST. This has resulted in the reduction of the effective tax rate of GST vis-à-vis the desired rate required to achieve revenue neutrality (Mukherjee 2021).

Like the SGST collection (including IGST settlement), the central GST (CGST) collection (including IGST settlement on CGST account) has also fallen during 2020–21. In the present design of GST, there is no provision for revenue compensation for the union government. To moderate the impact of a shortfall in CGST collection on the union finances, the union government has raised revenue collections on account of "non-shareable duties (NSD)" and "cesses on commodities (COC)" under the union excise duty (UED), "social welfare surcharge" and the "agriculture infrastructure and development cess (AIDC)" under customs duty (Mukherjee 2022). The UED continues for three petroleum products (petrol, diesel, and aviation turbine fuel), natural gas (compressed), crude petroleum, and tobacco products in the GST regime. The aggregate GST collection during April–July 2021–22 shows a 8.9% growth over the same period of 2019–20 and 16.4% growth during the same period of 2018–19. The largest fall in GST collection was observed during April–May 2020–21 due to the enforcement of the pan-India lockdown to contain the spread of the COVID-19 outbreak.[3] Keeping in view the uncertainty due to the COVID-19 pandemic, in the 43rd meeting of the GST Council held on 28 May 2021, the council proposed an amount of ₹1.59 lakh crore to be borrowed from the market by the union government during 2021–22 in order to give a special GST compensation to states. The union government projected a GST compensation requirement of ₹2.7 lakh crore for 2021–22. In 2021–22, the GST compensation cess collection was projected at ₹1.1 lakh crore, which is 41% of the GST compensation requirement of 2021–22. In 2021–22, the union government borrowed ₹1,59,000 crore as back-to-back loans against GOI securities of five- and two-year tenures and released the amount to states and union territories with legislature.[4] Therefore, at the end of 2021–22, there was an accumulated market borrowing of ₹2.69 lakh crore (excluding market interest liability on account of ₹1.10 lakh crore borrowed in 2020–21). The GST compensation cess was extended till 31 March 2016 and the revenue from the cess was to be used to service the accumulated market borrowings. It remains to be seen whether the prospective revenue stream of GST compensation cess collection post the GST transition period would be enough to service the accumulated market borrowings (including interest liabilities) of the union government under a special window.

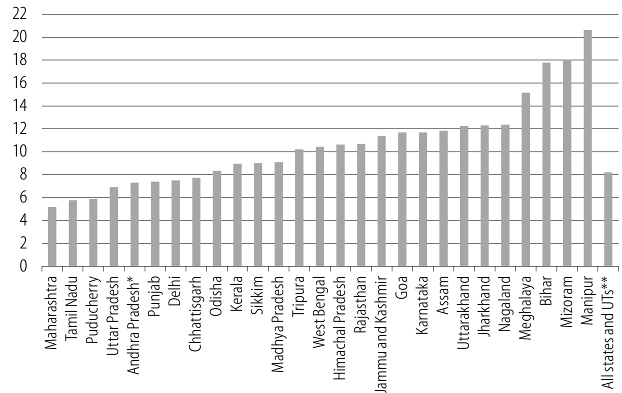
If there is any balance left in the GST compensation fund after servicing the back-to-back loans and paying the pending GST compensations to the states (if any), it may provide a fiscal space to the union government to accommodate the demands for extension of GST compensation payments to the states beyond the GST transition period.

Table 1: Goods and Services Tax Compensation Cess Collection and Compensation Payment to States/Union Territories with Legislature (₹ crore)

Description	2017–18	2018–19	2019–20	2020–21	2021–22
GST compensation cess collection (A)	62,611.59	95,080.71	95,553.09	85,191.91	1,04,768.66
GST compensation released to states and union territories with legislature (B)	41,146.00	69,275.00	1,20,498.29	1,36,988.47	97,500.00
Balance amount in the GST compensation fund (A–B)	21,465.59	25,805.71	-24,945.20	-51,796.56	7,268.66

Source: For 2017–18 to 2020–21, Union Finance Account and for 2021–22 Union Budget 2023–24 documents.

Figure 1: Average Annual Growth Rate of Revenue from Taxes Subsumed in GST during 2012–13 to 2016–17# (%)



Data of pre-GST revenue is not available for Arunachal Pradesh, Gujarat, and Haryana.
* Undivided Andhra Pradesh, ** Average annual growth rate of revenue from taxes subsumed in GST for all states (excluding Arunachal Pradesh, Gujarat and Haryana) and union territories with legislature.
Source: Computed by the author based on data available at the GST portal.

This paper attempts to identify the states that will be worst-hit if the GST collections do not improve in the coming years as expected. The paper also compares the pre- and post-GST tax buoyancy of the states to understand its possible impact. Next, it also assesses the likely revenue requirement for servicing the accumulated special market borrowings of the union government.

Difference in the Revenue Impact of GST across States

In this exercise, for the pre-GST period (2014–15 to 2016–17), we consider the statewise average annual growth rate in revenue collection of subsumed taxes in GST. For the post-GST period (2017–18 to 2019–20), we consider the average annual growth rate in SGST collection (including IGST settlement).[5] The average annual growth rate of revenue corresponding to taxes subsumed in GST was 8.2% between 2013–14 and 2016–17 (Figure 1). Except for Arunachal Pradesh, Gujarat, and Haryana, the revenue corresponding to subsumed taxes in GST is available for all states and union territories with legislature from 2012–13 to 2017–18 (till 30 June 2017).[6] Figure 1 shows that except for Meghalaya, Bihar, Mizoram, and Manipur, the average annual growth rate in revenue corresponding to the subsumed taxes was lower than 14% during 2013–17. The paper also compares the pre- and post-GST buoyancy of states to understand its possible impact. Next, it assesses the likely revenue requirement for servicing the accumulated special market borrowings of the union government.

Except for Maharashtra, Tamil Nadu, and Uttar Pradesh (UP), for other major states, the average annual growth rate in the SGST collection has declined in the post-GST period (2017–20) as compared to the average annual growth rate in the subsumed taxes in GST for the pre-GST period (2014–17) (Table 2, p 42). Andhra Pradesh (AP) shows a rise in the growth rate in SGST collection in the post-GST period and it is mainly due to the separation of public finance accounts of undivided AP into AP and Telangana from 2 June 2014. The average annual growth rate of SGST in undivided AP shows a marginal fall in the post-GST period as compared to the pre-GST period (as shown in the last row of Table 2). In the post-GST period, none of the major states achieved a growth rate of 14% in SGST collection. However, in the pre-GST period, the average annual growth rate of Bihar was higher than 14%. In the post-GST period, Manipur, Mizoram, Nagaland, and Sikkim achieved, on average, growth of more than 14% in SGST collection. The GST transition period ended on 30 June 2022 and the decision on the extension of GST compensation to the states has not been taken yet. However, it is expected that the states will receive the pending GST compensation payments (if any) post the GST compensation period in tranches. Therefore, depending on the growth in the SGST collection, different states may face different levels of revenue shortfall after the GST transition period. Though the states expect a revenue shock, given the experience of growth rate in SGST collection over the last four years, managing the revenue shock may still be difficult for some states. This will especially be the case for the states

Table 2: Statewise Average Annual Growth Rate in GST Collection and Tax Buoyancy*

State	Average Annual Growth Rate in GST Collection (%)**			Average Annual Tax Buoyancy		
	Average of 3 Years: Pre-GST (2014–15 to 2016–17) (A)	Average of 3 Years: Post-GST (2017–18 to 2019–20) (B)	B-A	Average of 3 Years: Pre-GST (2014–15 to 2016–17) (C)	Average of 3 Years: Post-GST (2017–18 to 2019–20) (D)	D-C
Andhra Pradesh	-12.24	8.72	21.0	–0.82	0.79	1.61
Assam	12.70	8.21	-4.5	1.07	0.74	-0.33
Bihar	15.76	2.91	-12.8	1.64	0.24	-1.40
Chhattisgarh	7.44	–0.20	-7.6	1.62	0.16	-1.47
Goa	9.90	0.79	-9.1	0.60	0.30	-0.29
Himachal Pradesh	11.15	0.16	-11.0	1.17	–0.08	-1.25
Jharkhand	13.32	1.54	-11.8	0.77	0.15	-0.62
Karnataka	11.00	2.36	-8.6	0.83	0.19	-0.64
Kerala	8.67	3.47	-5.2	0.87	0.20	-0.66
Madhya Pradesh	10.18	5.63	-4.5	0.78	0.44	-0.34
Maharashtra	6.07	7.13	1.1	0.63	0.80	0.17
Manipur	11.98	23.19	11.2	1.28	0.95	-0.33
Mizoram	15.99	51.57	35.6	1.21	4.06	2.85
Nagaland	19.40	33.22	13.8	2.34	2.86	0.53
Odisha	8.22	1.38	-6.8	1.04	0.19	-0.85
Punjab	5.47	-10.88	-16.4	0.52	-1.22	-1.74
Rajasthan	10.88	8.08	-2.8	0.97	0.82	-0.15
Sikkim	1.93	25.61	23.7	0.04	1.09	1.05
Tamil Nadu	6.56	7.23	0.7	0.65	0.61	-0.04
Telangana	--	7.16	--	--	0.54	--
Tripura	10.39	7.52	-2.9	0.70	0.61	-0.09
Uttar Pradesh	8.85	10.51	1.7	0.89	0.99	0.10
Uttarakhand	11.14	-3.39	-14.5	1.23	-0.21	-1.44
West Bengal	7.99	6.65	-1.3	1.06	0.61	-0.45
Andhra Pradesh#	7.84	7.83	-0.01	0.60	0.66	0.06

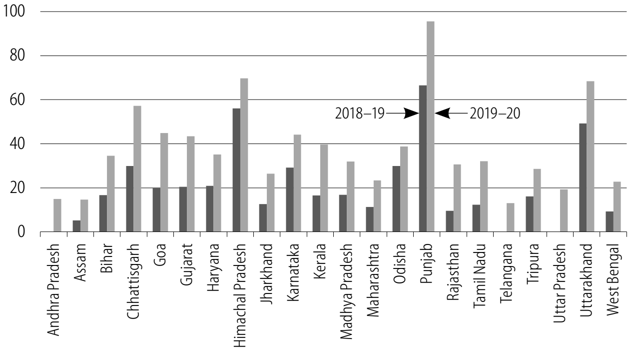
* Except for 2015–16, revenue corresponding taxes subsumed into GST is not available for Arunachal Pradesh, Gujarat, and Haryana. For Meghalaya, revenue collection corresponding to taxes subsumed into GST is not available for Q1 of 2017–18, so we have dropped Meghalaya from the analysis.

** For pre-GST, we have considered revenue corresponding to taxes subsumed into GST. For post-GST, we have considered SGST collection (including IGST settlement). Revenue corresponding to taxes subsumed into GST corresponding to Q1 of 2017–18 is merged with SGST collection (including IGST settlement) of 2017–18.

Undivided Andhra Pradesh.

Source: https://tutorial.gst.gov.in/offlineutilities/gst_statistics/Yearwise-Pre-GST-revenue.pdf (last accessed on 11 August 2021). Figures of statewise SGST collection (including IGST settlement) for 2017–18 and 2018–19 are taken from the finance accounts of the respective state governments. For 2019–20, GST collection figures are corresponding to actual of 2019–20 as reported in state budget documents.

Figure 2: Dependence on GST Compensation for Major States*



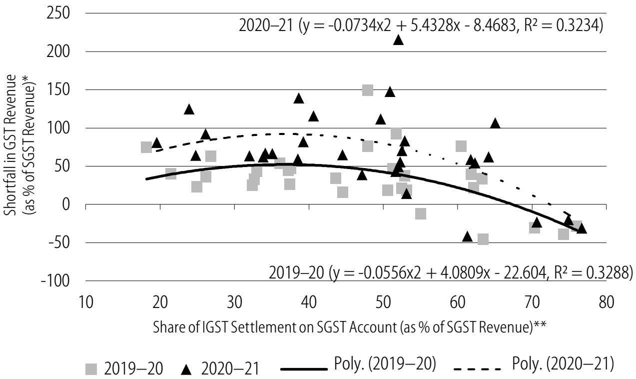
* Dependence on GST compensation (in %) = GST compensation received/SGST revenue (including IGST settlement) *100.

Source: State finance accounts, state budget documents and Lok Sabha Un-starred Question no 54, answered on 14 September 2020.

where the post-GST growth rate is substantially lower than the pre-GST growth rate in GST collections; for example Punjab, Uttarakhand, Bihar, Jharkhand, Goa, Karnataka, Chhattisgarh, and Odisha. The growth rate in GST collection also depends on the growth rate in consumption expenditure on goods and services in a state. In the absence of consumption expenditure data at the state level for the recent years, we consider the gross state value added (GSVA) at basic prices of the 2011–12 series at current prices as the tax base of GST in a state and then estimate the tax buoyancy for the pre- and post-GST periods (Table 2). Table 2 shows that besides Mizoram, Nagaland, and Sikkim, tax buoyancy has improved for Maharashtra and UP in the post-GST period. Improvement in the tax buoyancy of AP is again attributed to the separation of Telangana from undivided AP. Tax buoyancy of undivided AP shows a marginal improvement in the post-GST period. For a majority of the states, the average annual tax buoyancy has declined during the post-GST period as compared to the pre-GST period. This implies that reviving growth rate in consumption (or GSVA) will be important for the states to improve their GST collections, besides increasing tax efficiency and tax compliance. Given the growth rate in the tax base, an improvement in tax compliance and tax efficiency may help states to mobilise additional revenues from the GST.

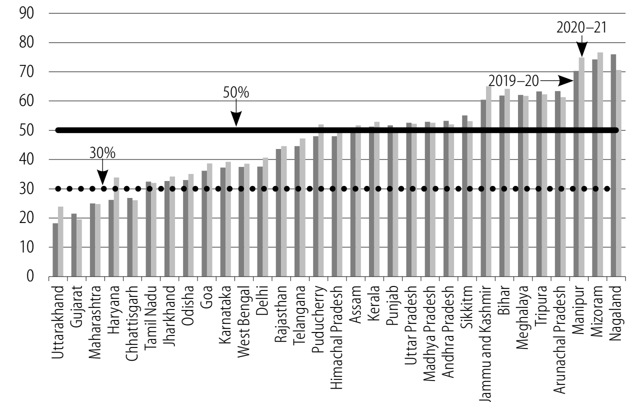
During 2020–21, the states (including union territories with legislature) have received a GST compensation of ₹2,47,196.47 crore (₹1,36,988.47 crore from the GST compensation fund and ₹1,10,208 crore from the special borrowing programme as back-to-back loans). Therefore, together, states (including union territories with legislature) have faced a shortfall of at least ₹2,47,196.47 crore in the SGST collection (including IGST settlement) as against the aggregate revenue under protection of ₹7,65,034 crore in 2020–21.[7] Therefore, the shortfall in SGST collection vis-à-vis revenue under protection was at least 32.31% in 2020–21. It was 7.97% in 2017–18, 11.77% in 2018–19 and 17.96% in 2019–20. This shows that even in 2019–20, that is, even prior to the COVID-19 pandemic, the states experienced a GST revenue shortfall. Therefore, with falling GST collections, the dependence on GST compensation has increased over the years for the states.

Figure 3: Why Revenue Shortfall Varies across Consuming and Manufacturing States?



* Shortfall in GST revenue (as % of SGST revenue) = [Revenue under protection (RUP). in GST—Actual SGST collection (including IGST settlement) collection]/SGST collection (including IGST settlement) *100.
** Share of IGST settlement on SGST account (as % of state GST revenue) = IGST settlement on SGST Account/SGST collection (including IGST Settlement) *100.
Source: Computed by the author based on data from the GST portal.

Figure 4: Share of IGST Settlement on SGST Account (as % of SGST Revenue)



Source: Computed by the author based on online database of GST portal.

Variation in Dependence on GST Compensation across States

Dependence on GST compensation differs across states. In Figure 2 (p 42), we present the GST compensation received by states in 2018–19 and 2019–20 as percentages of SGST revenue (including IGST settlement but excluding GST compensation receipts). It shows that the dependence on GST compensation had gone up in 2019–20 as compared to 2018–19. Dependence of seven states was 40% and above (Chhattisgarh, Goa, Gujarat, Himachal Pradesh, Karnataka, Punjab, and Uttarakhand) in 2019–20. In 2018–19, dependence of only three states was 40% and above (Himachal Pradesh, Punjab, and Uttarakhand). Some states were persistently facing a revenue shortfall in GST collection (namely Himachal Pradesh, Punjab, and Uttarakhand). Dependence of seven states was between 30% and 40% in 2019–20 (Bihar, Haryana, Kerala, Madhya Pradesh (MP), Odisha, Rajasthan, and Tamil Nadu). There were four states where dependence on GST compensation was between 20% and 30% (Jharkhand, Maharashtra, Tripura, and West Bengal). The dependence of AP, Assam, Telangana, and UP was lower than 20% in 2019–20.

Being a destination-based tax, the GST is expected to be beneficial for the consuming states to generate more revenue. In GST, the IGST credit flows from origin states to consuming (destination) states to settle tax liabilities arising downstream of the value chains. If we construct an indicator by measuring statewise IGST settlement on the SGST account as a percentage of the SGST collection (including IGST settlement), the indicator may depict whether a state is predominantly a consuming or producing state.[8] It is expected that for a predominantly consuming state, the value of the indicator will be higher as compared to a predominantly producing state. In other words, this indicator measures the share of imported goods in the total domestic consumption (or supplies) of a state. It is likely that consuming states will import more goods than producing states. As a measure of revenue shortfall of a state, we consider revenue under protection (RUP) as the desired revenue (or benchmark) and measure the difference between RUP and actual SGST revenue (including IGST settlement) as the revenue shortfall. We present the revenue shortfall in percentage of SGST revenue. For this analysis, we depend on the GST portal data (as available at https://www.gst.gov.in/download/gst-statistics). However, the database is not free from shortcomings. First of all, this database does not capture ad hoc IGST settlements of states. Second, the coverage of GST revenue for a state is partial as it does not capture revenue mobilisation under the GST which is outside the GSTN platform (for example, GST collection from import of goods and services, realisation of tax arrears on account of taxes subsumed into GST, recovery of revenue on account of amnesty schemes). Third, the data is not audited and it accounts the revenue on accrual basis whereas the Department of Revenue presents monthly revenue collection figures on a cash basis. Given the data limitations, the analysis may be considered as a preliminary evidence which requires in-depth analysis based on audited statements of the state finance accounts. We find that there is an owing-to-falling relationship between the two indicators (Figure 3). As the share of IGST settlement on SGST account increases, revenue shortfall increases and after reaching a point (point of inflection) revenue shortfall shrinks. For 2019–20, the point of inflection arrives at 37% (on the horizontal axis), whereas for 2020–21, it is 39%.[9] Given the data limitations, the result shows that the economic structure of a state influences GST collection, given the levels of tax effort and tax compliance. Similar conclusions are also arrived at by studies estimating GST revenue capacity and tax efficiency of states in India (Mukherjee 2020b).

A close look at Figures 3 and 4 will show that a majority of the states having lower share of IGST settlement on SGST account (as percentage of SGST collection, including IGST settlement) are states having higher share of manufacturing in GSVA (for example, Gujarat, Maharashtra, Tamil Nadu) and also their average per capita income as well as consumption base is comparatively higher than that of the other states. If we construct a range by taking 10% above and below the point of inflection (that is, approximately 40%), we will see that a majority of the states having an indicator value higher than 50% are predominantly consuming states (for example, Bihar and north-eastern states) (Figure 4). Similarly, the states having an indicator value of less than 30% are states like Gujarat, Maharashtra, and Haryana who have a higher share of manufacturing in GSDP (Figure 4). Therefore, the states having the indicator value falling between 30% and 50% are facing the maximum revenue shortfall. These states may have a relatively high in-bound flow of goods. Therefore, a close monitoring of movements of goods is important for states to rein in revenue leakages.

Availability of Fiscal Space to Accommodate Extension of GST Compensation

Many states were demanding the extension of the GST compensation period beyond June 2022 to cope with the revenue shortfall in GST collection as well as revenue shock caused by the COVID-19 pandemic. However, it is not clear whether there will be adequate revenue left for servicing accumulated market borrowings in the GST compensation fund after the GST transition period to accommodate the demand. Even if there is any balance left, will that be adequate to provide GST compensation to states (and union territories with legislature) at the present level of compensation (that is, a 14% year-on-year growth in revenue subsumed into GST in the base year 2015–16)? Or whether any compensation lower than the present level will be acceptable to states? If the states do not receive any GST compensation beyond the GST transition period, what will be its revenue impact on state finances? If the GST compensation cess collection beyond the GST transition period falls short of demand for GST compensation (for any reason), will the union government again borrow from the market to compensate the states? Whether the continuation of GST compensation cess forever is desirable. Whether the restructuring of GST rate structure could generate adequate resources for the union and state governments. Is there any possibility to enlarge the coverage of the GST compensation cess by bringing more goods and services under the GST cess? It may not be possible to answer all these questions at present, given the data constraints. In the paper, we will try to address some of the questions with an empirical analysis.

The union government has borrowed ₹1,10,208 crore by issuing GoI securities of five and three-year tenures in 20 weekly tranches during 2020–21. The interest rates of these special borrowings vary across tranches and also across tenures. The weighted average interest rate of aggregate borrowing in 2020–21 is 4.82%. The tenure of half of the aggregate borrowing of 2020–21 (that is, ₹55,104 crore) is three years with an interest rate of 4.48%. Out of the total borrowing against five-year government stocks in 2020–21, the interest rate is 5% for 11% of the borrowing (that is, ₹6,000 crore) and the rest of the amount (₹49,104 crore) has been borrowed at an interest rate of 5.15% (Table 3). Depending on the different tenures of the borrowings and corresponding interest rates, servicing obligations (interest and principal payment liabilities) of special market borrowings will vary. In 2021–22, ₹1,59,000 crore has been borrowed against government securities to compensate the states (and union territories with legislature) for the shortfall in projected GST cess collection vis-à-vis projected demand for the GST compensation requirement. Out of the total borrowing of ₹1,59,000 crore in 2021–22, ₹23,000 crore (that is, 14.5%) has been borrowed against government securities of two-year tenure with an interest rate of 4.26% (Table 3). The rest of the amount has been borrowed against government securities of five-year tenure at an interest rate of 5.63%. Therefore, by the end of 2021–22, the cumulative special market borrowing liability becomes ₹2,69,208 crore, which will be serviced by using the proceeds of the GST compensation cess collections. During the GST transition period, only the interest on special market borrowing will be paid from the proceeds of the GST compensation cess and after the GST transition period both interest and principal payments will be financed (or adequate provisions will be kept with the union government to repay the principal amount) from the proceeds of the GST compensation cess. In Table 3, we present the interest and principal payment obligations for the duration of the market borrowings, that is, from 2021–22 to 2025–26. It is to be highlighted that we have estimated the interest liabilities on an annual basis and thereafter divided the annual

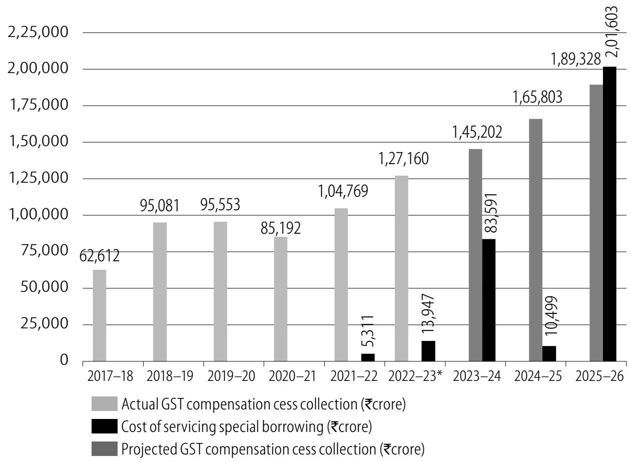
Table 3: Interest and Principal Payment Liabilities of Special Market Borrowings (₹crore)

Total Market Borrowing Principal Amount	Tenure (Years)	Interest Rate (%)	Market Borrowing by Tenure	Year of Borrowing	Earliest Date of Maturity (Name of Loan)	Liability	2021–22	2022–23	2023–24	2024–25	2025–26	Total
1,10,208	3	4.48	55,104	2020–21	2.11.2023 (4.48% government stock 2023)	Principal payment			55,104			55,104
						Interest payment	2,469	2,469	1,646*			6,583
						Total payment	2,469	2,469	56,750			61,687
	5	5.22	6,000		15.6.2025 (5.22% government stock 2025)	Principal payment					6,000	6,000
						Interest payment	313	313	78	313	313	1,331
						Total payment	313	313	78	313	6,313	7,331
	5	5.15	49,104		9.11.2025 (5.15% government stock 2025)	Principal payment					49,104	49,104
						Interest payment	2,529	2,529	1,686	2,529	2,529	11,801
						Total payment	2,529	2,529	1,686	2,529	51,633	60,905
1,59,000.0	2	4.26	23,000	2021–22	17.5.2023 (4.26% government Stock 2023)	Principal payment			23,000			23,000
						Interest payment		980	163			1,143
						Total payment		980	23,163			24,143
	5	5.63	1,36,000		12.4.2026 (5.63% government stock 2026)	Principal payment					1,36,000	1,36,000
						Interest payment		7,657	1,914	7,657	7,657	24,885
						Total payment		7,657	1,914	7,657	1,43,657	1,60,885
Re-payment liability (principal and interest) (₹crore)							5,311	13,947	83,591	10,499	2,01,603	3,14,951

* Interest liability in the terminal year = Principal amount × interest rate × (month of maturity/12).

Source: Computed by the author based on data available from the Union Budget 2023–24.

Figure 5: GST Compensation Cess Collection (Actual and Projected) and Cost of Servicing Special Borrowing (₹ crore)



* Actual collection from April 2022 to January 2023 and for February and March 2023 it is average monthly collection from April 2022 to January 2023.
Source: Computed by the author.

interest liability by the number of months for which interest payment liability arises, given the maturity schedule of government securities (details available in the notes of Table 3). It is also to be noted that the repayment liability of 5.63% on government stock 2026 will arise on 12 April 2026, however, we have made a provision for the repayment of the liability in 2025–26, as GST compensation cess collection has been extended only till 31 March 2026, as of now.

We have projected the GST compensation cess collection from 2023–24 to 2025–26, based on the buoyancy of GST compensation cess collection in 2022–23 (that is, 1.35) and the future growth rate of nominal gross domestic product (GDP). We assume that the nominal growth rate of GDP will continue to be at least 10.5% (on a year-on-year basis) during 2023–26. For 2022–23, we have the actual GST compensation cess collection till January 2023 and we have extrapolated the GST compensation cess collection for February and March 2023 based on the average monthly GST compensation cess collection during April 2022 and January 2023.

Taking the cue from the experience of GST cess collection during the last two years (2021–23), it seems that meeting the obligations of servicing the special market borrowings from the proceeds of GST cess collections may not be an issue during 2023–25 (Figure 5). Our analysis shows that the GST cess collection may exceed the amount required to service the interest as well as the principal payment liabilities corresponding to special market borrowings till 2024–25. In 2025–26, it is likely that the GST cess collection may fall short of the servicing liability of market borrowings. Therefore, there is a need to keep adequate provisions in the union finances during 2023–25 to repay the principal payment liability of the 5.63% government stock 2026 that will arise in 2025–26. After servicing the liabilities, it is likely that there will be a revenue surplus left in the GST compensation fund.

If the prescription laid down in the Goods and Services Tax (Compensation to States) Amendment Act, 2018 applies for years after the GST transition period, half of the balance amount in the GST compensation fund (after servicing special borrowings and paying arrears of GST compensations to the states) will be transferred to the Consolidated Fund of India as the share of the union and the remaining half will be distributed among the states and union territories (with legislature) in the ratio of their base year revenue subsumed into GST.

If the Goods and Services Tax (Compensation to States) Amendment Act, 2018 does not apply after the GST transition period and/or the GST compensation cess ends on 31 March 2026, casting a design of additional tax in lieu of GST compensation cess on demerit or sin goods (either as a concurrent tax like GST or as the union tax) may help the states to mobilise additional revenue (Mukherjee 2020c). Under alternative designs (either concurrent tax or a union tax) of additional tax on top of the GST rates, an alternative set of states will be benefited. States receiving a higher share in the tax devolution, as per the award of the finance commission, will benefit the most if the additional tax is a union tax (Mukherjee 2020c).

Summary and Conclusions

Our analysis shows that except for Maharashtra, Tamil Nadu, UP and a few north-eastern states, the average annual growth rate of SGST collection (including IGST settlement on SGST account) during 2017–18 and 2019–20 is lower than the average annual growth rate of taxes subsumed in GST during 2014–15 to 2016–17. We measure the states' dependence on GST compensation by estimating the amount of GST compensation received by a state as a percentage of the SGST revenue (including IGST settlement but excluding GST compensation receipts). Our analysis shows that the dependence on GST compensation has gone up for the states in 2019–20 as compared to 2018–19. The dependence of seven states was 40% and above (Chhattisgarh, Goa, Gujarat, Himachal Pradesh, Karnataka, Punjab, and Uttarakhand) in 2019–20. The dependence of another seven states was between 30% and 40% during 2019–20 (Bihar, Haryana, Kerala, MP, Odisha, Rajasthan, and Tamil Nadu). There are four states where the dependence on GST compensation was between 20% and 30% (Jharkhand, Maharashtra, Tripura, and West Bengal). The dependence of AP, Assam, Telangana, and UP was less than 20%.

Being a destination-based tax, it was expected that the GST will benefit the consuming states. We have constructed an indicator by statewise IGST settlement on SGST account as a percentage of SGST collection (including IGST settlement). This indicator depicts whether a state is predominantly a consuming or producing state. It is expected that for a predominantly consuming state, the value of the indicator would be higher as compared to a predominantly producing state. Our results show that the economic structure of a state influences GST collection, given the tax effort and tax compliance of a state.

A majority of the states having a lower share of IGST settlement on the SGST account (as % of SGST collection, including IGST settlement), hereafter mentioned as indicator value, are also the states having a higher share of manufacturing in GSVA (for example, Gujarat, Maharashtra, and Tamil Nadu) and also rank higher in per capita income. We also observed that the predominantly consuming states (for example, Bihar and north-eastern states) have the indicator value higher than 50%. Similarly, the states having indicator value of less than 30% are predominantly manufacturing states. The states where the indicator value varies between 30% and 50% are facing the maximum revenue shortfalls in GST. As these states have relatively large in-bound flows of goods, intensive monitoring of movements of goods may help to rein in the revenue leakages in GST.

In the face of revenue shortfall in the GST compensation fund and rising demand for GST compensations, the union government has borrowed ₹2.69 lakh crore during 2020–22 against government securities. The liability of servicing these special market borrowings rests upon the union government, and for this, the GST cess collection has been extended till 31 March 2026. Many states are demanding extension of GST compensation to cope with the revenue shortfall in GST collection as well as revenue shock caused by the COVID-19 pandemic (Mukherjee and Badola 2022).

Our analysis shows that the GST cess collection may exceed the amount required to service the interest as well as principal payment liabilities corresponding to the special market borrowings till 2024–25. In 2025–26, it is likely that the GST cess collection may fall short of the servicing liability of the special market borrowings. Therefore, there is a need to keep adequate provisions in the union finances during 2023–25 to repay the liability that will arise in 2025–26. If the prescription laid down in the Goods and Services Tax (Compensation to States) Amendment Act, 2018 applies for years after the GST transition period, half of the balance amount in the GST compensation fund (after servicing special borrowings and paying arrears of GST compensations to states) will be transferred to the Consolidated Fund of India as the share of the union and the remaining half will be distributed among the states and union territories (with legislature) in the ratio of their base year revenue subsumed into the GST.

NOTES

1 PIB press release on borrowing of money to meet GST revenue shortfall, 20 September 2020, as available at: https://www.pib.gov.in/PressReleasePage.aspx?PRID=1656927 (last accessed on 27 September 2021).

2 The total amount of ₹1,10,208 crore has been borrowed by the union government through the special borrowing window at an weighted average interest rate of 4.82%.

3 Comparing performance of GST collection in 2020–21 with 2019–20 may not present the true picture of GST collection, as growth rates in GST collections during Q1 and Q2 of 2020–21 fell by 41% and 7.8% respectively vis-à-vis 2019–20 (Mukherjee 2020a).

4 Out of total borrowing of ₹1,59,000 crore, ₹1,36,000 crore (that is, 85.53%) was borrowed against the five-year Government of India securities at a weighted average yield of 5.63% and ₹23,000 crore (that is, 14.47%) was borrowed against the two-year GoI securities at a weighted average yield of 4.26%.

5 For 2017–18, we consider the revenue corresponding to taxes subsumed into GST up to 30 June 2017 as well as SGST collection (including IGST settlement) between 1 July 2017 and 31 March 2018.

6 Available at https://tutorial.gst.gov.in/offlineutilities/gst_statistics/Yearwise-Pre-GST-revenue.pdf (last accessed on 5 October 2021).

7 The revenue under protection (RUP) for 2020–21 is estimated by using the statewise base year (2015–16) revenue of taxes subsumed into GST and 14% year on year growth since 2015–16. The figure includes revenue corresponding to undivided Jammu and Kashmir.

8 IGST settlement on SGST account (regular) = SGST liability paid by using IGST credit—IGST liability paid by using SGST credit.

9 Inflection point is derived by the first order maximisation of estimated equation (relationship between the series) as presented in Figure 3.

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Dark and Toxic under the Lamp

Industrial Pollution and Health Damage in Singrauli

VASUDHA A

The Singrauli region produces 16% of coal and 13% of thermal power in India. Various state and non-state institutions have examined the consequent regional pollution. This paper attempts to document the health damage to the regional population. A survey of 4,383 families in southern Sonbhadra district yielded data on select health impacts, which were then mapped to correlate to the industrial gaseous emissions. The consequent economic losses were calculated using the procedure outlined in the Employee's Compensation Act, 1923 and court judgments. These economic externalities borne by the local population range from 23 to 124 times the total environmental compensation that courts have so far ordered industries to pay to the state for environmental remediation.

The author is indebted to the workers of Banwasi Seva Ashram who carried out all the fieldwork and provided observations, insights and suggestions that guided this study.

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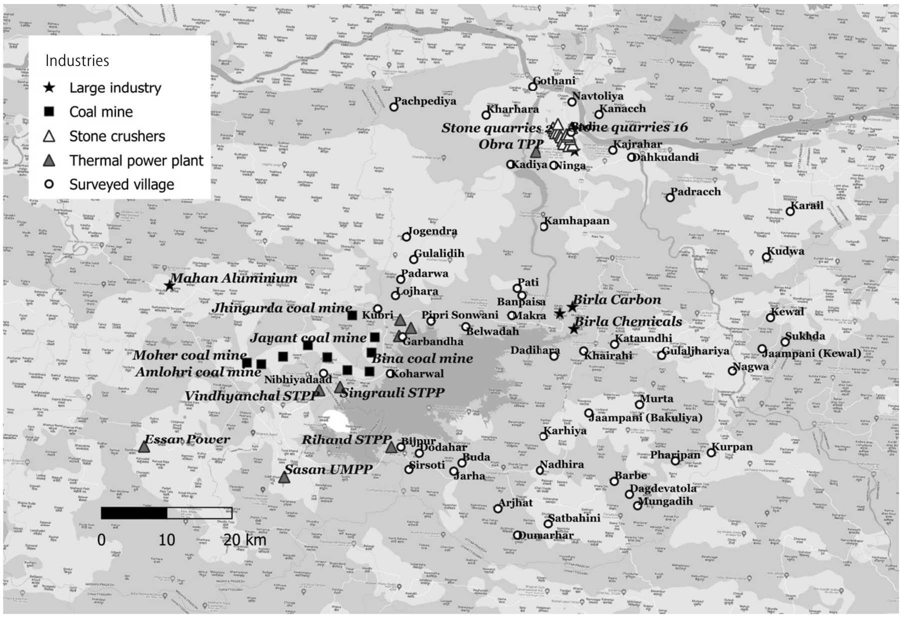
The ongoing crisis of air pollution in Delhi has resulted in a slew of measures by the federal government. This included the closure of six thermal power plants around Delhi in November 2021 (Chaudhary and Pradhan 2021), the phased introduction of 2,300 electric buses (*Livemint* 2022), and the continued expansion of the Delhi Metro network. All these measures have direct implications for the demand and supply of electricity in Delhi, which generates only about 20%–25% of its electricity requirement at upwards of 30,000 gigawatt hours (GWh) (Central Electricity Authority [CEA] 2020; Planning Department 2022).[1] Where, then, does the bulk of Delhi's electricity come from?

It comes from areas such as the Singrauli region, comprising Singrauli district of Madhya Pradesh (MP) and Sonbhadra district of Uttar Pradesh (UP), located at the borders of the respective states (Figure 1, p 48). This region has been called the energy capital of the country and has thermal power plants with a combined capacity of 21,164 megawatts (MW). In addition, there is a captive thermal capacity of 1,782 MW in the industries of the region. The Singrauli region contributed 9.75% of all electricity or 13.4% of thermal power produced in India in 2021.[2] Despite being such an important production centre for the energy requirements of the country, Singrauli itself remains energy poor. As per the 2011 census, 31% of all households in Singrauli district and 29% of households in Sonbhadra district are electrified. Thus, not even 0.4% of the electricity generated in this energy capital reaches the homes of the people inhabiting the region. Yet, they suffer from the negative externalities of this production capacity.

Most energy plants in Singrauli are central and state thermal power plants. The National Thermal Power Corporation Limited alone has three plants with a total capacity of 9,760 MW. Three private thermal power plants—other than aluminium major Hindalco's captive plant at Renusagar—have come up in the past decade. All of this thermal power development in the region occurred after coal was discovered in the 1950s while the flood area of the Rihand Dam was being demarcated. Thermal power plants began to be set up in the region because of the availability of coal and water in close proximity (Vasudha and Prem 2015).

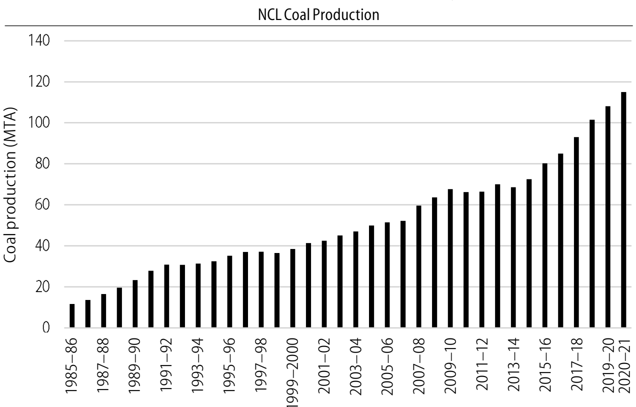
The coal for producing electricity is extracted from the Singrauli coalfields. The Northern Coalfields Limited (NCL) alone extracted about 115 million tonnes, or nearly 16% of India's coal production, in 2020–21 (Ministry of Coal 2021). Figure 2 (p 48) presents the continuous increase in coal mined from Singrauli coalfields since nationalisation, with the rate of

Figure 1: Map of Singrauli with Coal Mines and Large Industries



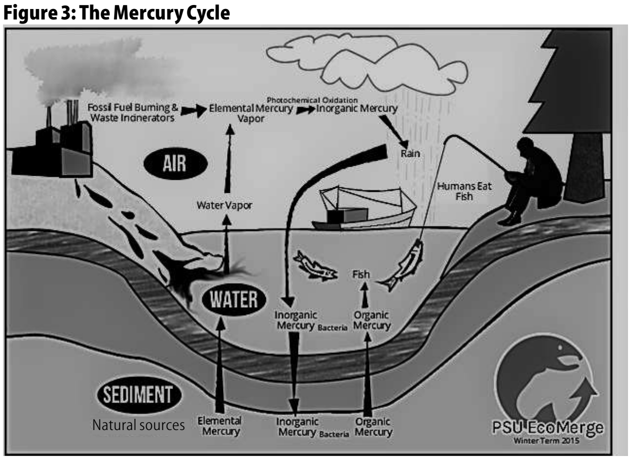
STP—super thermal power plant; TPP—thermal power plant; UMPP—ultra mega power project.
Source: Locations of villages and industries marked on Google Maps using quantum geographic information system.

Figure 2: Increase in Coal Mining in Singrauli Region by NCL, 1985–2020



Source: Compiled from the annual reports of Coal India Limited from 1986 to 2021.

Figure 3: The Mercury Cycle



India is the second largest emitter of mercury globally, estimated at 144.7 TPA.
Of this, coal burning is the highest contributor at 84.7 TPA (Sharma et al 2019).
Source: PSU EcoMerge (nd).

mining increasing significantly over the past two decades. These are opencast mines, that is, large open pits with huge dumps of overburden alongside. In June 2021, three people were killed and one critically injured because of overburden slippage from the Khadia coal mine (Sharma 2021).

In addition to coal mining and thermal power plants clustered around the Rihand reservoir, other large industries too add to the pollution load. Hindalco has two aluminium smelters, one of 0.41 million tonnes per annum (MTA) capacity in Sonbhadra and one of 0.36 MTA capacity in Singrauli district. There is one existing cement plant and another one seeking clearance at Dalla in the north of Sonbhadra district.

Coal, Not Just Carbon

Coal is composed of complex mixtures of organic and inorganic compounds. Coal may contain as many as 76 of the 92 naturally occurring elements of the periodic table. These are bound in coal but when coal is burnt, these are released back into the air or land (Schweinfurth 2003). Singrauli region burnt 101.5 million tonnes of coal in 2018.[3] This is about 0.28 million tonnes of coal being burnt every day.

Some of the compounds and elements present in coal are extremely toxic, a number of which are highly toxic heavy metals. When coal is burnt, these elements get released into the environment. Some of them are captured by the various environmental pollution mitigation technologies, such as the electrostatic precipitators and flue gas desulfurisation. Even though these technologies partially capture the pollutants, toxic elements nevertheless remain in the air, water and/or land. Figure 3 depicts how mercury from the thermal power plants enters various waste streams (PSU EcoMerge nd).

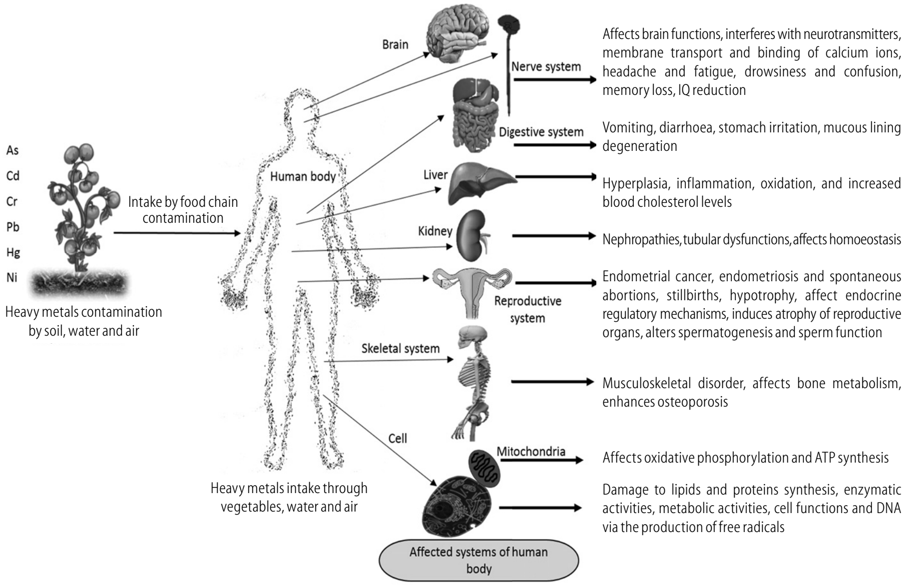
The varying amounts of elements that get released into the environment depend upon the corresponding concentration in

Table 1: $PM_{2.5}$ Values in Singrauli Region in Winter 2017–18

Cluster	Station	Distance	Range Min	Range Max	Average $PM_{2.5}$	% $PM_{2.5}$/PM_{10}
Obra–Dalla	Obra	Close	35	298	130.1	88.1
	Bari	Close	27	(1,293)*	228.9	85.7
	Dahakudandi	Medium	25	(1,293)*	239.1	90.6
Anpara–Vindhyachal	Anpara	Close	33	273	153.3	83.5
	Basi	Close		No data		
	Chilkadaad	Close	61	375	209.9	86.3
	Faripaan	Far		No data		
Rihand	Bijpur	Close	51	311	118.1	79.8
	Jarha Chetwa	Medium	42	168	89.2	78.1
	Nadhira	Far	35	206	99.1	88.6
Hindalco	Murdhawa	Close	37	164	88.1	86.1
	Govindpur	Medium	25	203	97.0	89.3
	Jharo	Medium	27	274	98.0	85.5
	Kewal	Far	23	98	65.6	76.4

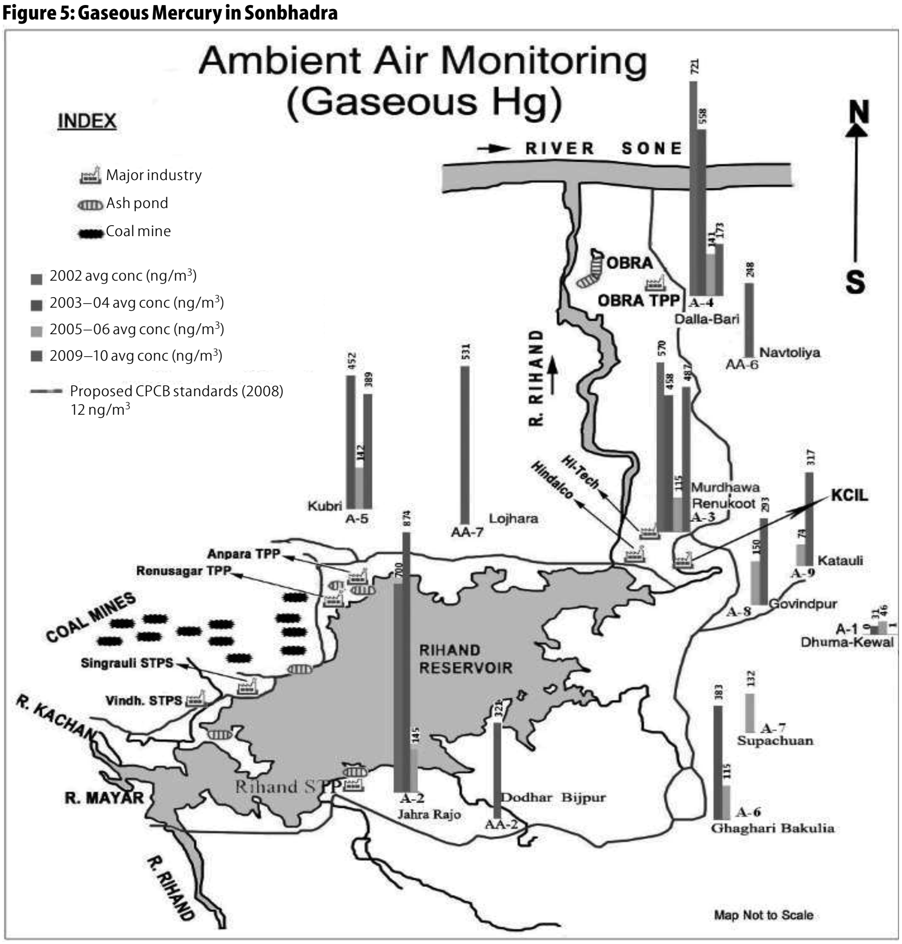
* The extremely high levels were probably due to the device getting choked and malfunctioning due to high levels of particulate matter and dust.
Source: PSI (2018).

Figure 4: Health Effects of Heavy Metals on Humans



ATP—adenosine triphosphate; IQ reduction—intellectual quotient reduction (error in the image).
Source: Kumar et al (2019).

Figure 5: Gaseous Mercury in Sonbhadra



Avg Conc stands for average concentration; R—river; STPS—super thermal power station; KCIL—Kanoria Chemical Industries Limited; A-1 to AA-7 denote the ambient air monitoring station locations.
Source: Prepared by BSA as part of monitoring undertaken in association with CPCB between 2002 and 2010.

the coal. Based on the Central Institute of Mining and Fuel Research's calculation of the average concentrations of these elements in Indian coal (Banerjee et al 2000), we can estimate that about 1.9 metric tonnes of chromium (Cr), 4.2 tonnes of lead (Pb), 1.4 tonnes of arsenic (As), 1 tonne of nickel (Ni), and 0.1 tonne of mercury (Hg) are released into the environment from the coal burnt every day in Singrauli. Figure 4 summarises the impacts of six heavy metals, including the above-mentioned and cadmium (Cd), on human health (Kumar et al 2019).

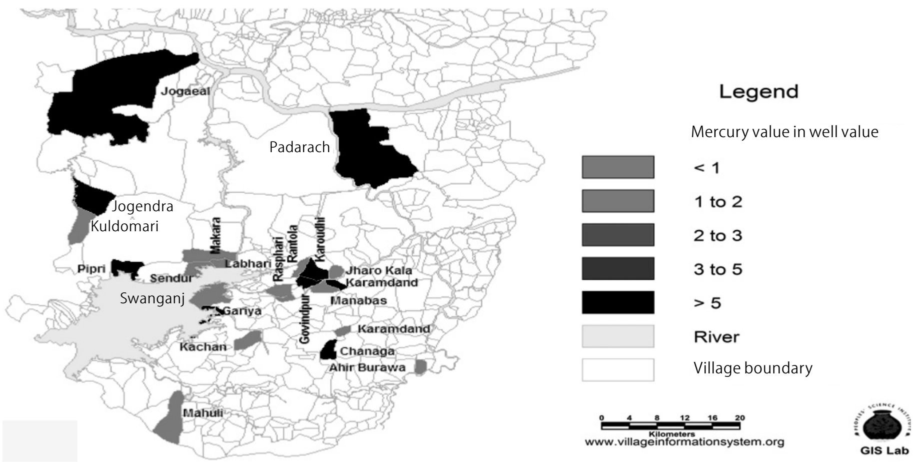
Physicochemical Monitoring

Between 2002 and 2010, the Banwasi Seva Ashram (BSA) in association with the Central Pollution Control Board (CPCB) and assisted by the People's Science Institute (PSI) at Dehradun and the Hazards Centre in New Delhi, undertook the monitoring of air, groundwater, surface water, and drains across Sonbhadra. It found high concentrations of fluoride and mercury in the air, indicating substantial impact of fugitive and stack emissions of coal combustion, aluminium smelting, and caustic soda manufacturing (BSA 2010). The CPCB has declared Singrauli region as one of the critically polluted industrial clusters to be monitored through the comprehensive environmental pollution index (UPPCB 2018).

Figure 5 shows the gaseous mercury levels in the atmosphere in Sonbhadra between 2002 and 2009 (in nanograms per cubic metre [ng/m^3]) as monitored by the BSA. The monitoring was undertaken at nine stations spread across the district, with Dhuma–Kewal in the eastern region of the district taken as a control. There is no permissible standard for mercury in India. The CPCB had proposed a standard limit of 12 ng/m^3 in 2009 but never finalised it. The levels of gaseous mercury were higher than this proposed standard throughout Sonbhadra; only Kewal (control area) had levels lower than this.

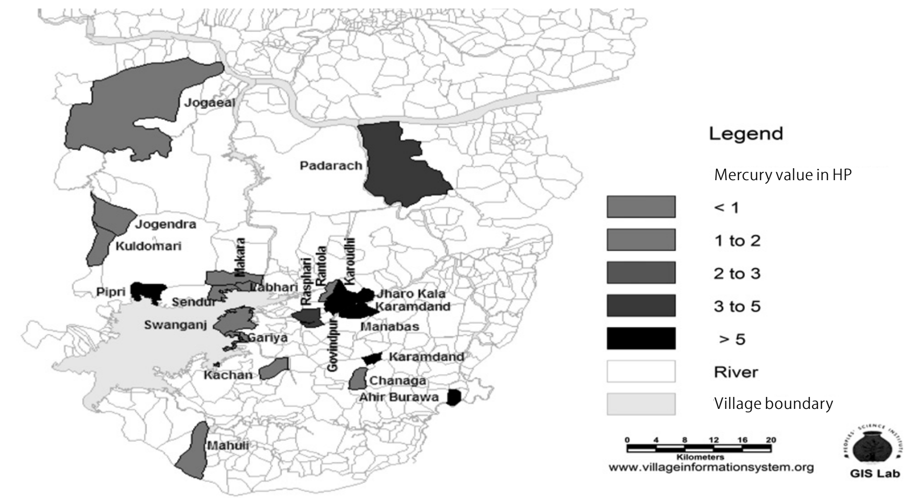
Later, between 2017 and 2018, the BSA in association with the PSI and Hazards Centre monitored particulate matter using sensors at 14 locations across Sonbhadra. The locations adjacent to as well as at some distance from the industries were monitored and particulate matter levels across the region were found consistently

Figure 6: Mercury Levels in Open Well Water in Sonbhadra Villages



Source: Prepared by PSI as a part of monitoring undertaken in association with village panchayats in 2016.

Figure 7: Mercury Levels in Hand Pump Water in Sonbhadra Villages



NHP—hand pump.
Source: Prepared by PSI as a part of monitoring undertaken in association with panchayats in 2016.

at two–three times the standard, and at times, even five–six times higher than the standard. Table 1 (p 48) gives the average values of $PM_{2.5}$ (particles that are less than 2.5 micron in diameter) found during monitoring. It also compares the fraction of $PM_{2.5}$ in PM_{10} (particles less than 10 micron in diameter), wherein it can be seen that a large fraction of particle matter is fine particle matter, which might indicate that the particulate matter is predominantly due to the combustion from thermal power plants that travels large distances. The Centre for Science and Environment (CSE) undertook a study of the data from the CPCB continuous monitoring stations in 17 towns in central India in 2021, wherein Singrauli town was found to be the worst with 95 days of very poor or critical air quality through the year (Roychowdhary and Somvanshi 2021).

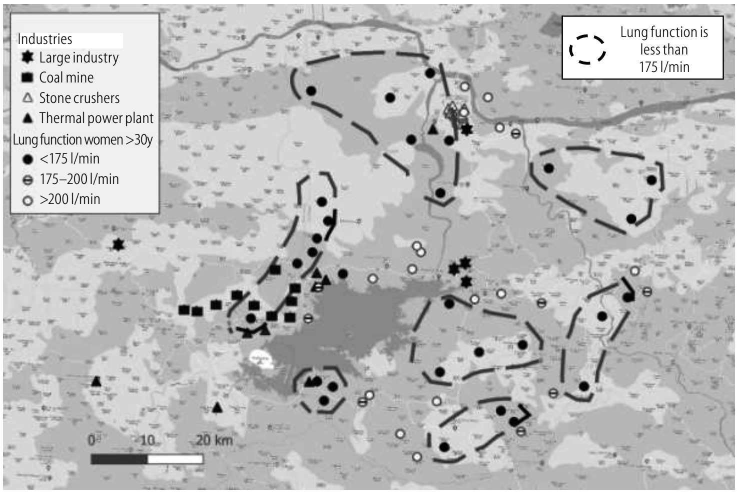
The BSA–CPCB monitoring in 2010 showed that inadequately treated waste water is being discharged into the Rihand reservoir through various small drains. As a result, the reservoir had high levels of total suspended solids, fluoride, and mercury. The Balia nullah is to the west of the reservoir, and receives effluents from ash ponds of the thermal power plants as well as the coal mines. The Dongiya nullah carries the effluents of the Grasim Industries into the reservoir. The Murdhawa nullah is downstream of the Rihand Dam and upstream of the Obra Dam and receives effluents from the Hindalco and Birla carbon factories, in addition to receiving effluents from the Hindalco township (BSA 2010). The National Green Tribunal (NGT)-appointed committee that looked at the water quality in the region in 2015 revealed, "remarkabl[y] high concentration[s] of mercury, cadmium, nickel, aluminium, chromium, and fluoride in some parts of the region is a common feature" (Core Committee for Monitoring of Potential Hazards of Industrial Development in Singrauli 2014).[4] Other studies that looked at heavy metal pollution in the region concluded that the sources of heavy metals in groundwater and surface water are the ash ponds and industries in the region (Bharadwaj et al 2020).

In 2016, panchayats in Sonbhadra collected water samples from wells, hand pumps, and ponds, and tested them through PSI for fluoride, mercury, arsenic, and general characteristics such as total dissolved solids and pH, which denotes a substance's acidity or alkalinity on a logarithmic scale ranging from 0–14. Figures 6 and 7 show the mercury levels in water from wells and hand pumps, respectively. Well water was found to be more contaminated than the water from hand pumps. This might indicate that a possible source of mercury at the locations of some distance from mines and industries is fallout from the atmosphere and not from rocks in the region as the water from deeper hand pumps has lower levels of mercury.

Health Impacts

Multiple studies on the health of the regional population have been carried out. In 1997–98, the Indian Institute of Toxicological Research, Lucknow tested blood and hair samples for mercury. It found that the mean mercury levels in the blood of Singrauli residents was 21.37±2.11 nanograms per millilitre (ng/ml) compared to the control level of 1.75±0.22 ng/ml, and the same in hair was 1.90±0.101 μg/ml in the region compared to 0.89 μg/ml in the control (Industrial Toxicology Research Centre 1998). The CSE similarly tested for mercury in 2014, and found its average concentrations in human blood, hair and nail were 34.30 part per billion (ppb), 7.39 part per million (ppm) and 0.83 ppm, respectively (Sahu et al 2014).

Figure 8: Peak Expiratory Flow Rate in Women Older Than 30 Years



Source: Based on the primary health survey carried out by the BSA.

associates) of the BSA recorded the families' socio-economic parameters, health, and women's reproductive health. The focus was on recording the exposure to mercury and fluoride. Simple tests were carried out, such as measuring peak expiratory flow rates (PEFR) to record lung health, body mass index and muscle tone. We observed indicators such as the yellowing of teeth due to the exposure to fluoride, and the occurrence of tremors in the hand that can occur due to mercury exposure. Tests of individuals aged 16 and above were recorded.

On an average, the lung function of the residents of Singrauli region was 42.7% lesser than that of an average Indian (Kodgule et al 2014). This was slightly more pronounced in women whose lung function showed a decrease of 44% as compared to men whose lung function showed a decrease of 41.6%. The decrease in lung function was also more pronounced in older adults. Figure 8 shows the areas where the decrease in lung function was more pronounced for women older than 30 years. Estimating the actual values of lung function, the PEFR for these women should be at least 290 litres per minute (l/min), and villages where the average PEFR was 175 l/min or less have been highlighted with hatched isolines. The areas of concern are similar for younger women and men whose data is presented in Table 2. As can be seen, the lung function of residents of the entire southern Sonbhadra region is severely affected. Some pockets are more affected being east of the reservoir: the

The NGT core committee found health issues pertaining to the toxicity of minerals in the region. It found fluorosis to be highly prevalent, especially in Chopan and Myorpur bocks of Sonbhadra. It also found that many villagers complained of body aches and other symptoms suggestive of peripheral neuropathy, whereas some of them had blue lines on their gums suggestive of lead toxicity. In addition, the committee also found some patients with a history suggestive of mercury toxicity. Patients with lung manifestations were found in the area around the Dalla cement factory (earlier owned by Jaiprakash Associates Limited and now by UltraTech) as well as people near the coal transport areas (Core committee 2014).

In 2011, a pilot health survey was conducted by the BSA (assisted by the Hazards Centre) with 1,613 people in 21 villages of Sonbhadra. The survey found chronic exposure of the population to a combination of pollutants, such as respirable suspended particulate matter, heavy metals, fluoride, sulphur dioxide, and nitrogen oxides, which had led to a general deterioration in the health of the local population (Vasudha and Prem 2015).

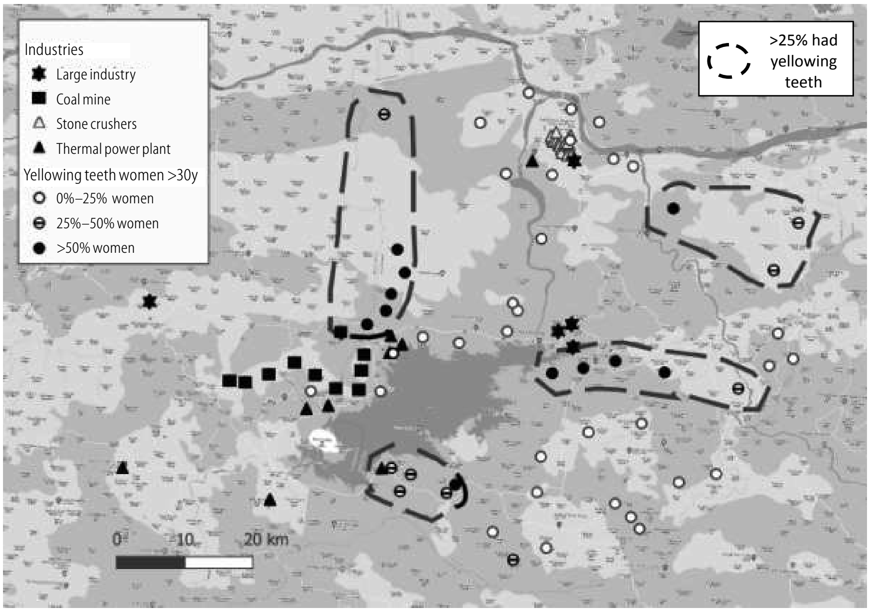
Following this, a more detailed study of 4,383 families in 52 villages of Sonbhadra was carried out by the BSA (with assistance from the Hazards Centre) in 2012–13. The 52 villages were spread throughout the district, located at differing distances from the industries. Every third family and, in larger villages, every fourth family was surveyed, wherein *swasthya mitras* (health

Table 2: Peak Expiratory Flow Rate of Respondents of Health Survey (l/min)

Village	Women		Men		Village	Women		Men	
Age (years)	15–30	>30	15–30	>30	Age (years)	15–30	>30	15–30	>30
Arjhat	234.3	210.0	318.1	292.6	Kataundhi	207.4	210.1	290.8	262.0
Badi	191.3	203.6	266.8	275.2	Kewal	208.0	202.4	289.0	316.7
Banpaisa				356.1	Khairahi	240.6	205.6	357.8	301.1
Barbe	142.7	140.9	246.4	238.6	Kharhara	200.9	166.5	288.2	284.9
Belwadah	225.7	204.7	247.8	265.1	Koharwal	183.4	193.3	298.2	272.9
Bijpur	192.0	171.7	271.9	241.1	Kubri	126.9	106.1	224.5	194.7
Buda					Kudwa	131.5	94.7	204.8	196.0
Dadihara	197.6	167.9	284.9	239.1	Kurpan	189.7	172.2	312.0	285.4
Dagdauatola	163.9	166.6	287.7	258.1	Lojhara	124.2	124.8	244.7	198.4
Dahkudandi	209.7	194.0	316.8	304.0	Makra	242.9	217.2	286.8	254.6
Dodahar	185.4	161.1	280.9	226.1	Mungadih	174.1	181.0	318.7	264.7
Dumarhar	224.6	207.7	268.2	298.4	Murtwa	130.5	136.0	243.1	191.0
Garbandha	212.5	193.1	283.0	272.3	Nadhira	245.4	207.7	337.6	306.2
Gothani	179.7	145.0	212.4	199.3	Nagwa	177.6	159.4	310.8	281.8
Gulalidih	153.7	144.8	244.9	236.7	Navtoliya	222.8	220.2	338.9	325.6
Gulaljhariya	191.6	190.7	294.5	294.9	Nibhiyadaad	177.2	159.7	314.1	272.9
Jaampani (K)	148.7	138.6	224.0	223.0	Ninga	175.0	163.8	301.5	284.1
Jaampani (B)	133.4	123.5	254.9	229.5	Pachpediya	119.5	113.5	226.1	202.3
Jarha	179.6	180.5	283.9	246.2	Padarwa	150.7	130.4	263.7	243.2
Jogendra	122.4	115.3	181.2	161.6	Padracch	157.3	143.3	226.6	236.2
Kadiya	163.6	145.7	234.6	226.2	Pati			331.3	312.1
Kajrahar	211.3	207.9	266.7	262.3	Pharipan	184.2	184.9	294.1	285.8
Kamhapaan	159.9	144.8	257.1	237.7	Pipri-Sonwani	177.4	165.6	245.8	241.6
Kanacch	221.6	215.7	300.2	304.8	Satbahini	178.0	169.2	283.3	269.1
Karail	115.3	89.2	174.8	151.6	Sirsoti	181.9	161.5	270.0	225.1
Karhiya	164.2	138.5	207.6	199.8	Sukhda	207.4	195.7	283.7	298.1

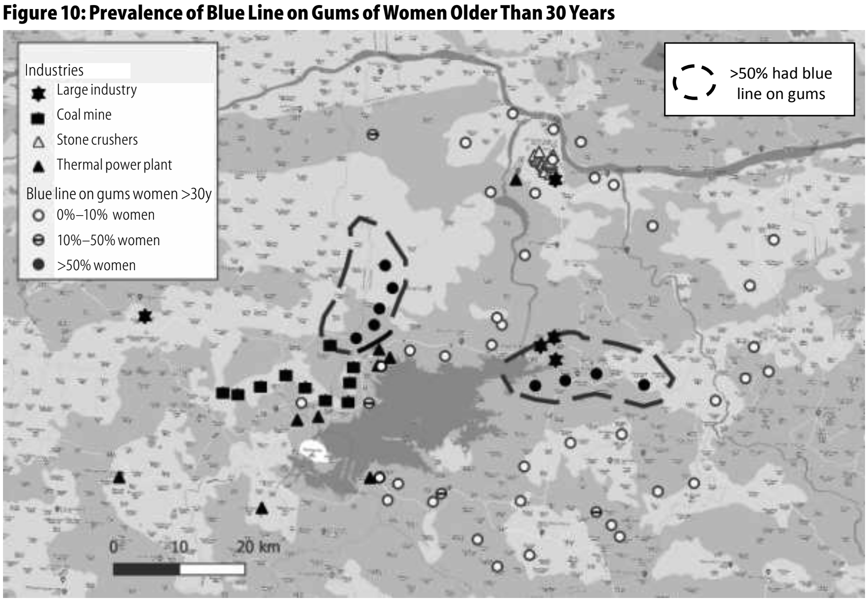
The blank boxes are in cases of insufficient data, that is, smaller than required sample size.
Source: Survey data collected by the BSA.

Figure 9: Prevalence of Yellowing of Teeth in Women Older Than 30 Years



Source: Based on the primary health survey carried out by the BSA.

Figure 10: Prevalence of Blue Line on Gums of Women Older Than 30 Years



Source: Based on the primary health survey carried out by the BSA.

southeast of Hindalco, adjacent and to the north of the coal mines, and the cluster of thermal power plants at Anpara, Vindhyachal, Singrauli and Renusagar, and to the east of the Kanhar river, between Kanhar and Son rivers.

It should be noted that the hatched isolines have been drawn taking into consideration the topographic configuration of the area. Sonbhadra district may be broadly divided into three geographical regions that are separated by two ridges of the east–west Kaimur range. The southernmost region forms the catchment of the south–north Rihand river that has been partly converted into the largest man-made reservoir (Rihand) in India, formed by building a dam at the point where Rihand river pierces the southern ridge. North of this ridge lies the central region formed by the valley of the Rihand until it joins Son river, which is bounded on the north by the northern ridge of the Kaimur. Further north of the Kaimur lies the third region of Sonbhadra, which is a part of the plateau forming the southern boundary of the Gangetic plain. Thus, the two ridges of the Kaimur provide natural boundaries that funnel the winds in an east–west direction, with some air spilling northwards from the high Mainpat plateau south of the district. These winds determine the distribution of air pollution that emanates either from the tall stacks of the thermal power plants in the southern region or the lower-level emissions from the stone quarries and cement plants in the central region.

Figure 9 shows the proportion of women aged more than 30 years with yellowing of teeth that occurs due to fluorosis, and Figure 10 shows the prevalence of blue line on gums that is an indicator of exposure to heavy metals such as lead and mercury. The two areas of concern for both these symptoms are to the north and to the east of the reservoir. There is also a cluster of villages to the southeast of the reservoir, in the vicinity of the Rihand thermal plant, where both lung function is affected and yellowing of teeth is observed. The data of younger women and men for these two parameters are presented in Tables 3 and 4 (p 53).

Exposure to heavy metals, such as mercury, is known to affect the nervous system, lungs, kidneys as well as foetuses, and has been linked to miscarriages (Bernhoft 2012; Bjørklund et al 2019; Kumar et al 2019). Figure 11 (p 54) shows the occurrence of miscarriages for every 100 live births, where the most affected is the region in the northeast of the district, and an area to the east of the reservoir. There are 5.6 miscarriages per 100 live births nationally, whereas in Sonbhadra, there are 8.75 miscarriages per 100 live births (IIPS and ICF 2017). UP has 8.6 miscarriages per 100 live births, which is much higher than the national average, but is still lower than the levels in Sonbhadra. Thus, women in Sonbhadra had 1,700 excess miscarriages as compared to women in UP, and nearly 36,000 more abortions as compared to pan India.

Figure 12 (p 54) gives the predominant surface wind direction over all three regions of Sonbhadra district as per the reanalysis of the National Centre for Environmental Prediction data (Urban Emissions.info nd), and the three main directions are from the northwest, west, and east. It is possible that due to the winds blowing from the southern Mainpat plateau towards the thermal power plants and a saddle in the ridge north of these plants, the impacts are seen on the lungs of villagers residing to the north of the industries. Historically, the wind direction in the region, especially at the altitude of 300 metres, up to which height the chimney stacks of the thermal power plants extend, are predominantly westerly and to a small extent easterly. This might be the reason for the extensive impact to the east of the reservoir.

Economic Loss

The average health indicators of the population of Sonbhadra as compared with those of the Indian population show that their lung function is poorer, they are severely afflicted by fluorosis, and that women suffer greater miscarriages as compared to the national average. The notional economic loss of villagers due to the adverse impacts on their health was computed according to the following methodology:

Lung function: Economic losses were calculated on the basis of the compensation amounts mandated by the Employee's Compensation Act, 1923 (amended in 2017). This act provides for compensation to be paid by an employer for an injury or health impact on account of work.

Compensation for permanent disability = 60% of monthly wage × Rf as per age of worker × % reduction of earning capacity

Rf: relevant factor given in the act as based on the age of the worker.

For each worker, the percent decrease in lung function was taken as the percent reduction of earning capacity, the assumption being that they would be substitutable. Separate calculations were undertaken using the following three income figures. (i) The average income of households in UP in 2013 (as the health survey was carried out in 2012–13) of ₹4,923 per month (NSSO 2013). (ii) The minimum wage of ₹3,692 per month (assuming 26 working days in a month) paid to agricultural labourers in UP in 2013 (Labour Bureau 2013). (iii) The UP minimum wage for unskilled labour of ₹9,078 per month (Office of the Labour Commissioner 2021) as stipulated in 2021 to capture inflation effect. The sum arrived was then multiplied by three or four, depending on how many families were surveyed in the village, and this was then multiplied to obtain the reduction in the earning capacity of all the residents of 1,429 villages in the district.

Fluorosis: The National Human Rights Commission had ordered MP to compensate a sum of

Table 3: Percentage of Respondents with Yellowed Stained Teeth

Village	Women		Men		Village	Women		Men	
Age (years)	15–30	>30	15–30	>30	Age (years)	15–30	>30	15–30	>30
Arjhat	5.8	17.4	8.6	5.5	Kataundhi	20.9	65.1	28.1	76.8
Badi	1.4	1.9	0.0	1.7	Kewal	0.0	2.3	0.0	0.0
Banpaisa	0.0	0.0	0.0	1.7	Khairahi	35.1	64.4	19.7	65.0
Barbe	20.3	18.8	14.6	16.7	Kharhara	2.1	4.8	0.0	11.4
Belwadah	0.0	11.3	8.8	22.8	Koharwal	5.5	21.6	7.0	28.8
Bijpur	39.3	31.6	31.8	39.3	Kubri	86.2	92.0	49.2	65.5
Buda	21.4	70.5	25.7	70.9	Kudwa	40.0	50.0	27.5	43.8
Dadihara	31.7	84.0	24.2	80.2	Kurpan	16.7	14.0	17.6	26.8
Dagdauatola	4.6	9.3	1.6	5.1	Lojhara	88.0	86.6	60.2	75.0
Dahkudandi	1.8	1.6	3.2	6.8	Makra	0.0	0.0	3.9	4.3
Dodahar	31.3	37.7	46.8	21.1	Mungadih	4.5	1.8	1.4	6.5
Dumarhar	11.8	31.8	24.5	21.6	Murtwa	13.5	10.4	1.7	6.8
Garbandha	5.8	9.7	4.3	9.9	Nadhira	8.5	14.8	16.9	42.0
Gothani	13.7	13.1	0.0	19.7	Nagwa	10.0	26.3	7.1	35.6
Gulalidih	60.2	71.9	41.2	56.1	Navtoliya	0.0	0.0	0.0	0.0
Gulaljhariya	35.0	56.9	37.0	67.2	Nibhiyadaad	2.3	1.6	2.9	5.0
Jaampani (B)	13.9	10.7	6.2	6.9	Ninga	0.0	1.9	0.0	1.7
Jaampani (K)	0.0	0.0	0.0	0.0	Pachpediya	24.7	27.0	37.8	60.9
Jarha	57.4	48.5	63.0	67.4	Padarwa	77.3	86.8	59.0	81.3
Jogendra	73.0	91.7	43.2	72.7	Padracch	46.8	80.3	20.8	74.3
Kadiya	10.0	14.5	7.9	12.3	Pati	0.0	0.0	0.0	0.0
Kajrahar	0.0	0.0	0.0	1.6	Pharipan	3.3	1.6	4.5	2.6
Kamhapaan	2.0	0.0	1.3	0.0	Pipri–Sonwani	1.5	3.0	3.6	10.5
Kanacch	0.0	2.0	0.0	0.0	Satbahini	0.0	2.5	0.0	15.2
Karail	13.6	26.3	3.5	4.2	Sirsoti	34.5	35.7	32.2	34.0
Karhiya	8.8	19.2	0.9	3.1	Sukhda	0.0	0.0	0.0	0.0

Source: Survey data collected by the BSA.

Table 4: Percentage of Respondents with Blue Line on Gums

Village	Women		Men		Village	Women		Men	
Age (years)	15–30	>30	15–30	>30	Age (years)	15–30	>30	15–30	>30
Arjhat	0.0	2.2	0.0	0.0	Kataundhi	23.1	63.9	28.1	80.5
Badi	0.0	0.0	0.0	1.7	Kewal	0.0	0.0	0.0	0.0
Banpaisa	0.0	0.0	2.0	5.2	Khairahi	36.1	64.4	20.5	64.1
Barbe	1.3	12.5	1.1	1.7	Kharhara	0.0	3.2	1.1	3.8
Belwadah	4.2	3.8	0.0	1.8	Koharwal	9.1	13.5	8.8	15.3
Bijpur	1.6	0.0	0.0	1.6	Kubri	86.2	92.0	47.7	67.2
Buda	11.4	54.5	14.3	52.7	Kudwa	1.4	0.0	2.3	0.0
Dadihara	35.6	85.3	24.2	82.7	Kurpan	5.6	7.0	5.9	12.5
Dagdauatola	1.5	2.3	0.0	1.7	Lojhara	80.4	89.6	58.0	71.6
Dahkudandi	0.0	3.2	1.6	1.4	Makra	0.0	0.0	0.0	1.4
Dodahar	0.0	3.3	0.0	0.0	Mungadih	1.5	0.0	0.0	0.0
Dumarhar	0.0	2.3	2.0	7.8	Murta	2.2	2.1	1.7	3.4
Garbandha	0.0	0.0	4.3	1.4	Nadhira	1.7	1.6	0.0	0.0
Gothani	3.9	7.1	1.9	5.6	Nagwa	1.0	3.8	3.0	0.0
Gulalidih	52.8	67.2	34.3	36.6	Navtoliya	0.0	2.0	1.7	1.9
Gulaljhariya	40.0	56.9	41.1	68.9	Nibhiyadaad	3.4	3.1	2.0	1.3
Jaampani (B)	0.0	0.0	0.0	0.0	Ninga	0.0	0.0	0.0	0.0
Jaampani (K)	0.0	0.0	0.0	0.0	Pachpediya	30.6	41.3	40.0	59.4
Jarha	2.9	4.5	0.0	2.3	Padarwa	77.3	82.4	54.2	77.5
Jogendra	73.0	91.7	43.2	72.7	Padracch	2.1	2.6	0.0	2.8
Kadiya	2.0	8.1	1.6	7.7	Pati	0.0	0.0	0.0	0.0
Kajrahar	0.0	0.0	0.0	0.0	Pharipan	5.0	3.1	1.5	2.6
Kamhapaan	0.0	0.0	0.0	0.0	Pipri–Sonwani	0.0	7.5	2.4	9.3
Kanacch	0.0	0.0	0.0	0.0	Satbahini	0.0	0.0	0.0	0.0
Karail	0.0	0.0	0.0	0.0	Sirsoti	0.0	0.0	0.0	0.0
Karhiya	0.0	1.9	0.0	0.0	Sukhda	0.0	0.0	0.0	0.0

Source: Survey data collected by the BSA.

Figure 11: Reproductive Health of Women—Number of Miscarriages per 100 Live Births

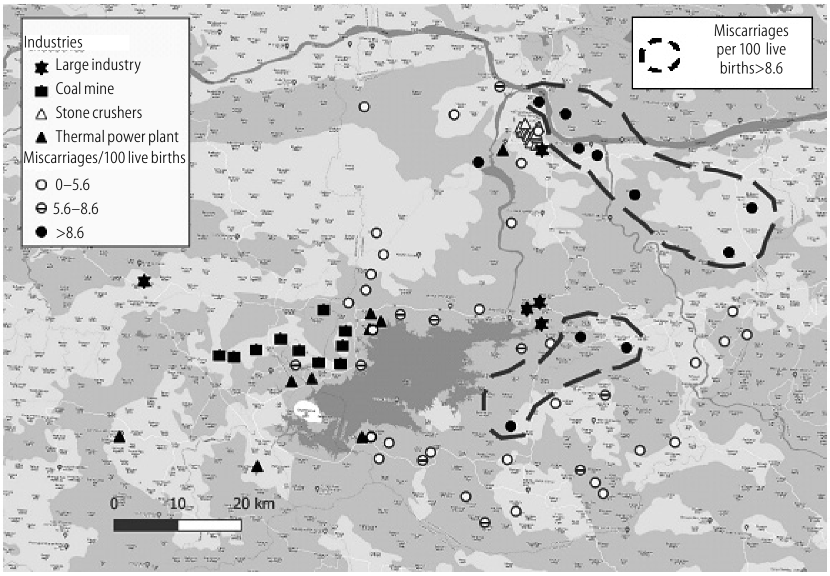


Figure 12: Wind Direction for Sonbhadra District

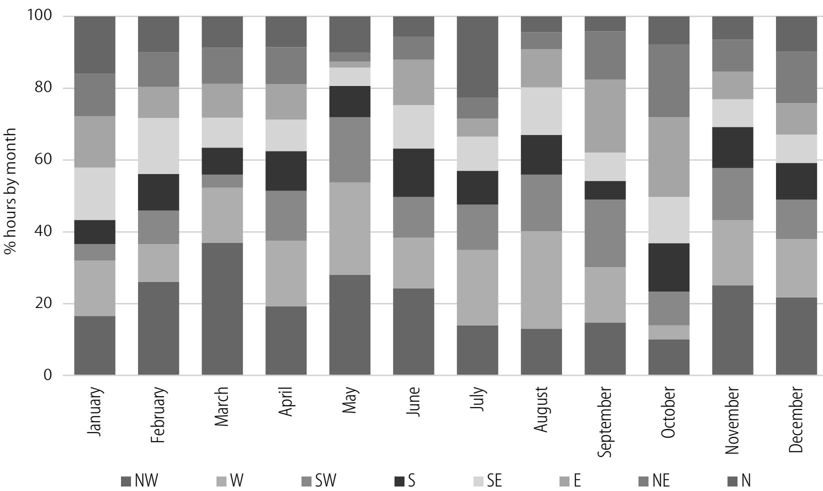


Table 5: Health Damages of Residents of Sonbhadra

Health Impact	Wage/Location	Respondents in 52 Villages (₹)	All Residents of 52 Villages (₹)	1,429 Villages of Sonbhadra (₹)
Lung function	2013 household income ₹4,923*	79,96,70,679	2,39,90,12,038	65,92,66,96,202
	2013 minimum wage (agriculture) ₹3,692*	1,80,25,50,165	5,40,76,50,495	1,48,60,63,95,347
	2021 minimum wage (unskilled) ₹9,078*	4,43,21,64,247	13,29,64,92,740	3,65,39,78,48,580
Miscarriage	Calculating excess miscarriages using miscarriage rate in Uttar Pradesh as a base	51,97,500	1,55,92,500	42,84,93,894
	Calculating excess miscarriages using pan-India miscarriage rate	10,82,10,000	32,46,30,000	8,92,10,82,115
Fluorosis		3,32,70,000	9,98,10,000	2,74,28,55,577
Range of totals	Lower	83,81,38,179	2,51,44,14,538	69,09,80,45,674
	Upper	4,57,36,44,247	13,72,09,32,740	3,77,06,17,86,272

* Figures are specific to Uttar Pradesh.
Source: Calculations based on the primary survey conducted by BSA.

₹10,000 for children who drank fluoride-laden water (NHRC 2013) and got sick, stating that it was the responsibility of the state to provide clean drinking water. The number of respondents who showed signs of yellowing and staining of teeth was multiplied with ₹10,000 to arrive at the figure in Table 5.

Miscarriages: Multiple high courts have considered the unborn foetus as a child and, in case of an accident leading to miscarriage, have ordered for the affected woman to be compensated. The high courts of MP (*Shraddha v Badresh and Ors* 2006) and Delhi (*Prakash and Ors v Arun Kumar Saini and Anr* 2010) have ordered compensation of ₹2,50,000 in different orders. The number of excess miscarriages suffered by the women of Sonbhadra as compared to the women of UP was multiplied by ₹2,50,000 to arrive at the figure of ₹42,84,93,894 in Table 5. Similarly, the number of excess miscarriages suffered by women pan-India was multiplied by ₹2,50,000 to arrive at the figure of ₹8,92,10,82,115.

Table 5 summarises these calculations, which suggest that the residents of Sonbhadra district have suffered cumulative damages over the past three decades due to the above-mentioned three parameters' adverse impacts on their health estimated between ₹70 billion and ₹380 billion. This does not include the impact on the health of the residents of the neighbouring district of Singrauli, which falls in MP and lies outside the area of the BSA's operations.

In 2013, the average household income of agricultural families in UP was less than ₹5,000 per month or less than ₹60,000 per year. However, these impoverished residents of Sonbhadra district have suffered further economic damages due to adverse health impacts up to the tune of ₹380 billion, that is, nearly ₹1.15 million per household. The earlier 2011 pilot survey among 1,613 respondents in 21 villages in Sonbhadra also showed significant health damage. As per that study, each individual had suffered health damages in the range of ₹1,23,899–₹6,09,017.[5] This survey did not cover all family members, instead only one to two respondents from 1,184 families were surveyed.

The estimated damages would be even higher if the impact on crops and fruiting trees was to be considered. In 1997, a study was conducted to look at the fruit and crop production in the region (BSA and PSI 1997). A survey was conducted among farmers in 22 villages of Sonbhadra, inquiring into the productivity of fruit trees, such as mango, jackfruit, and lemon, lac (shellac) as well as cereals such as wheat, mustard, and potato, between 1975 and 1996, and carried out an ambient air monitoring. Lac had been severely affected then and now, it has nearly completely disappeared from the region. Between 1975 and 1996, a loss of ₹121.4 million was estimated to have been borne by 996 families. Thus, each family suffered an average economic loss of ₹1,21,874 due to the decreased production of just the major fruits and lac. Twenty-five years have passed since.

The Courts

Multiple cases related to environmental impacts in the Singrauli region have been filed in the NGT. In each of these, the court has acknowledged the environmental pollution by the industries, and has ordered compensations to be deposited as fines and towards remediation. The judgment in *Ashwani Kumar Dubey v UoI and Ors* (2022) gives a description of some of these cases. The *Anjani Jaiswal v UoI and Ors* (2019) case sought directions on environmental pollution by the industries, and the NGT ordered an environmental compensation of ₹790 million. In January, the NGT gave its judgment on eight petitions filed for remedial action against the violation of environmental norms by thermal power plants, including the Ashwani Kumar case that specifically sought directions for thermal power plants in the Singrauli region. The industries in Singrauli have been ordered to deposit a total environmental compensation of ₹2.24 billion. Other than this, a three-member committee constituted by the NGT calculated an environmental compensation of ₹1.55 billion for Grasim Industries' chemicals division (which falls under the Aditya Birla Group) for storing mercury-bearing brine sludge in its premises and immediately shifting it to a treatment, storage and disposal facility. However, Grasim Industries as well as most other thermal power plants have filed appeals in the Supreme Court against these penalties.

In April 2020, a breach at the Sasan thermal power plant's ash dyke led to the death of six people and loss of property, cattle, and crops. The district administration ordered Sasan to pay a compensation of ₹6.94 million for the loss of life and treatment costs, and ₹27.72 million for the loss of property (house, crops, cattle, motor pump, and so on) (Affidavit of Sasan Power Ltd in the matter of *Hiralal Bais v UoI and Ors 2021*). Thus, the NGT and district administration recognise the damages to health due to accidents such as the ash dyke breaches, and have ordered compensation for the same. The NGT has also recognised the impact on the health of the people of Singrauli region; however, it has not deemed the need for compensation on this count.

In Conclusion

Burning 3,00,000 tonnes of coal daily, the industries of Singrauli region release significant amounts of toxic heavy metals into the environment. Whereas 99.96% of this generated electricity goes out into the national grid, leaving Singrauli as one of the most dark and toxic regions despite being under the very lamp of development.

This study in Sonbhadra found that the consequent industrial pollution has led to a general deterioration in the health of its residents. A methodology to estimate the damages due to adverse health impacts was derived, based on three health parameters: lung function that was found to be 42.7% lesser than that of an average Indian, increased rate of miscarriages found to be 56% higher than the national average, and widespread occurrence of fluorosis in the region. These damages were estimated to be between ₹70 billion and ₹380 billion, depending on the notional income value. Damages due to other health issues, such as neurological disorders and infertility as well as crop and agricultural losses, need to be assessed to get a more comprehensive estimate of people's losses due to this pollution.

The NGT has found industries in violation of environmental norms, and has ordered them to pay environmental compensation to the state agencies for remediation of the environment. These total to ₹3.03 billion. Yet, nearly all the industries have appealed to the Supreme Court, which has, in turn, ordered a stay. On the other hand, the losses that people have borne are orders of higher magnitude. Who will compensate the people for these damages that have conveniently been written off as externalities?

NOTES

1 The data on renewable energy produced in Delhi between April 2019 and March 2020 was accessed from the CEA dashboard.

2 Region-wise, statewise and station-wise monthly generation reports of thermal power for November 2021 were accessed from the National Power Portal. The renewable energy generation data was accessed from the CEA dashboard.

3 These figures were calculated from the monthly fuel consumption of thermal power plants available at the CEA website and the environmental statements of Renusagar Power Plant, Hindalco and UltraTech Cement Limited (aka Dalla cement factory).

4 This quote is from page 22 of the Subcommittee-2 on Potential Impact of Pollution on Water Resources in Singrauli Area under the Core Committee (2014). There were five subcommittees, each of whose reports are paginated discretely.

5 Calculations are based on the survey of 1,613 respondents of 21 villages undertaken by the BSA in 2011.

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Tracing the Geographies of Inequality in India

Beneath the Urban–Rural Divide

ANIRUDH KRISHNA, RAJESH SHUKLA

Spatial, that is, geographic inequalities are growing in India and other countries. Some countries are better provided with services, infrastructure, and earning opportunities. States matter and the urban–rural difference is salient to these distinctions. However, locating the geographies of advantage and disadvantage requires going below the level of states and beyond the binary of urban–rural distinction. A sevenfold classification of districts is offered to help in visualising overlapping disadvantages. It reveals important differences in living conditions and is a first effort to go beneath the urban–rural dichotomy.

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Growing inequality in India has an important geographic dimension. Analysts have shown that economic trends across states differ considerably. One group of states is consistently at the leading edge of socio-economic developments and another group is constantly lagging behind on multiple indicators, also known as the weaker or *bimaru* states of India (Alkire and Seth 2015; Cain et al 2010; Dhongde 2017; Kannan and Raveendran 2011; Kim et al 2016). The distinction is also drawn between rural and urban parts of the country, with the urban areas being ahead of rural areas in important dimensions (Azam 2017; Chamarbagwala 2006; Fan et al 2005; Hnatskova and Lahiri 2013; PRB 2015; Krishna and Bajpai 2011; Motiram and Vakulabharanam 2012). Spatial inequalities have grown in other developing countries too. They are being studied to understand the dichotomy between states and provinces and along a coarse urban–rural divide.[1]

While these depictions of the geography of inequality pick up on important distinctions, they nevertheless tend to gloss over important subcategory differences. A finer mosaic reveals a great deal of policy-relevant information.

Filling the map of inequality in more informative ways requires probing beneath the level of states and going beyond the binary of rural–urban differences. States in India are too large and diverse to get a handle on the regional and local geographies of inequality. Ten states have more than 50 million people each, which is larger than many European nations.

Differences within states are as important as (and arguably more important than) similarities within them. At the time of writing, 748 districts provided an alternative and more localised unit of analysis. For a long time, districts have been the units of local administration. Particularly for a rural resident, the district they live in is as salient as the state. Singh et al (2014: 75) note how "focusing on state-level trends can miss out on more localised problems of relative or even absolute stagnation. In many ways, the district is the most significant economic and administrative unit in the country." Districts within states can be vastly different from one another while evaluating inequality. Recognising that the districts' characteristics can be an obstacle for local development, the government has paid special attention in different eras to desert districts, drought-prone districts, tribal districts, and most lately, aspirational districts.[2] Importantly, states that have backward districts also have forward districts, and vice versa.

Similarly, the binary distinction between rural and urban areas is no longer sufficient for visualising key variations in living conditions. Cities vary a great deal; Bengaluru is not Itarsi. Analyses of urban conditions have shown how larger and smaller cities have varied poverty rates and diverse levels of service provisions (Dubey et al 2001). Similarly, rural areas are widely different from one another in terms of a variety of characteristics like infrastructure, levels of service delivery, education and health indicators, and income earning possibilities. Scholars of rural areas have also been pointing to the need for internal differentiation and subcategories.[3]

Thus, constructing subcategories of urban and rural is both timely and necessary. However, there is no consensus on how these subcategories should be defined. An important criterion while devising a scheme of subcategories is that each subcategory should be similar within while clearly being different from other subcategories. Knowing which subcategory of district a person lives in gives a clear idea, within a narrow range of her service delivery levels, etc.

In this paper, we take a finer-grained look at the geography of inequality after considering differences across seven types of districts that lie along a continuum ranging from metro cities to the most remote rural areas. This sevenfold classification helps in identifying some striking inequalities across locations in India.

The rest of this paper is organised as follows. We begin by presenting data and methods and indicate how the seven kinds of locations are distributed within different states. Subsequently, we look at various socio-economic indicators, each of which differs considerably across locations. This leads to a finer-grained analysis, where in addition to location types, the sample is split into income quintiles, resulting in $7 \times 5 = 35$ cells. This helps pinpoint the loci of key deficiencies and incomplete transitions. Further, we look at anomalies within a particular rural subcategory which shows some interesting peculiarities. Finally, we bring together the policy recommendations that flow from our sevenfold subcategorisation, which includes suggestions for updating and improving these location subcategories.

Data and Methods

We consider four urban subcategories and three rural subcategories relying on an ICE 360° Survey, 2006 of People's Research on India's Consumer Economy (PRICE which gathered data for a probability random sample of 61,000 households spread across 22 states and three union territories.[4] These subcategories were identified separately at the district level for rural and urban areas. Each rural or urban part of a district in India falls in one category. To define subcategories, two slightly different criteria were considered for rural and urban parts of districts.

In the case of urban India, a combination of three different criteria identified the first three (of four) categories of districts: metros, boom towns, and niche cities. The three criteria we employ are: population, rate of urbanisation, and per capita household consumption. As a base for selecting the first three urban clusters, we have considered all districts that are home to cities having a population of 1 lakh and above according to the Census of India 2011. In the 2011 Census, there were 495 cities with a population above 1 lakh belonging to 357 districts. Once the first three clusters were defined, the fourth urban cluster was identified as the rest of urban India and was called the rest of urban (Table 1).

Rural India was grouped into three subregions: developed rural, emerging rural, and left-behind rural (LBR). To enable this categorisation, a district development score was calculated for all the 640 districts by using a set of 21 developmental indicators based on demographics, financial inclusion, access to basic amenities and asset penetration, among other parameters, which are available from the 2011 Census. Using the score value, districts were grouped into three subcategories (Table 2):
(i) Developed rural: districts with the top 25% highest district development scores; (ii) emerging rural: districts with the next 25% highest scores; and (iii) left-behind rural: districts with the bottom 50% of scores, the least-developed (or more backward) districts.

Table 1: Categorisation of Urban Locations

Four Urban Subregions	Size of Population as Census 2011	Examples of Districts under Each Urban Subcategory
Metros: Top 10 districts	Population>= 5 million	Delhi, Mumbai Suburban, Bengaluru, Ahmedabad, North 24 Parganas, Pune, Surat, Chennai, Kolkata
Boom towns: Next 18 districts	Population 2.5 to 5 million	Hyderabad, Jaipur, Ghaziabad, Nagpur, Howrah, Lucknow, Coimbatore, Patna, Nashik, Kancheepuram, Thiruvallur, Indore, Rajkot
Niche cities: Next 39 districts	Population 1 to 2.5 million	Vadodara, Thiruvananthapuram, Ludhiana, Madurai, Meerut, Guntur, Faridabad
Rest of urban—573 districts	Population less than 1 million	All other urban parts of districts

Table 2: Categorisation of Rural Locations

Rural Subregions	Examples of Districts under Each Rural Subcategory
Developed rural: 160 districts	Thane, Pune, Kozhikode, Ernakulam, Jalandhar, Ludhiana, Sonipat, Surat, Gandhinagar
Emerging rural: 160 districts	Agra, Mathura, Warangal, Mysuru, Guntur, Cuddalore, Nashik, Solapur, Jaipur, Ajmer
Left-behind rural: 320 districts	Firozabad, Madhubani, Adilabad, Nellore, Jodhpur, Buldana, Gaya, Samastipur, Ratlam

Table 3 sets out some basic parameters related to these subcategories. The subcategories are not equal in size but correspond to different shares of the national population. Metro, which is the urban subcategory, constitutes a total of 6.8% of the country's population. However, the rest of urban constitutes a much larger share of 17.5%. The smallest subcategory is boom town with a 4.2% population share. The largest subcategory, LBR areas, has 37% of the population. It is also the

Table 3: Seven Geographic Subcategories

	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India Average
Population (%)	6.8	4.2	4.6	17.5	10.2	19.6	37.0	100.0
Population (million)	90.5	55.6	61.5	232.8	135.6	261.3	492.6	1,329.8
Average household size	4.51	4.35	4.24	4.76	4.61	4.84	4.88	4.74

Source: ICE 360° Survey, 2016 (PRICE).

subcategory within which the highest poverty in India is concentrated.

Notably, no state is composed of a single subcategory, though Delhi and Chandigarh being metro locations come close. Figure 1 shows how each state is composed of multiple subcategories.

The reason for looking at districts rather than states is clear. There is an assortment of districts within each state. For instance, while constituting smaller parts of Maharashtra, Karnataka, Tamil Nadu, and Gujarat, the subcategory, developed rural, is highly prevalent across Goa, Kerala, Puducherry, Himachal Pradesh, Punjab, and Haryana. However, it is not absent from other states, including Uttar Pradesh (UP) and Madhya Pradesh (MP), where it makes up 5% and 3% of all locations. Correspondingly, the subcategory LBR is the majority location type in states, such as Chhattisgarh, Bihar, Odisha, MP, Assam, and Jharkhand, the usual suspects, but it also forms a significant part of Gujarat and Telangana.

Figure 1: States Are Not Uniform (% of households)

Source: ICE 360° Survey, 2016 (PRICE).

Our sevenfold classification represents a first effort to go beyond the coarse urban–rural dichotomy. It is possible that a larger or smaller number of location types may be more revealing of similarities and differences in India. Nevertheless, the sevenfold categorisation exposes important differences and inequalities, suggesting that the binary distinction between urban and rural has been overtaken by events.

Comparisons across Location Types

The seven locational subcategories correspond to important differences in living conditions. Knowing where a person lives out of the seven subcategories of districts, gives a good indication of the average person's living conditions. Table 2 shows how per capita incomes are vastly different, nearly twice as much of those in metros, while those in LBR are 30% below the national average. The mean income falls regularly from left to right in Table 4 except for a spike in developed rural areas.

A similar gradation in economic conditions appears when we look at other socio-economic indicators. The share of the poorest 20% is highest in LBR and lowest in metros (Table 5). More than two-thirds of India's poorest 20% live in LBR districts (which account for 37% of the overall population). On the other hand, metros and boom towns together account for 11% of the population. They are home to only 1% of the poorest 20% and 29% of the richest 20%.

A clear geography of poverty emerges. India's rich are clustered in metros and boom towns, while India's poor are clustered in LBR areas. For someone who lives in a LBR district, the chances of being in the poorest 20% are three times larger while the chances of being in the richest 20% are seven times lower as compared to someone in a metro area. This pattern of geographic inequality is similar to what Florida (2008: 19)

Table 4: A Gradient of Incomes

	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India Average
Average annual per capita income	75,532	61,376	53,880	47,548	51,485	38,313	28,235	41,818
Average annual per capita savings	24,422	17,676	15,810	12,859	15,367	9,110	4,853	10,562

Source: ICE 360° Survey, 2016 (PRICE).

Table 5: Geographies of Richest and Poorest (%)

Shares of	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India Average
Population	6.8	4.2	4.6	17.5	10.2	19.6	37.0	100.0
Q1 (bottom 20%)	0	1	2	10	2	17	69	100
Q5 (top 20%)	20	9	8	20	16	15	13	100

Source: ICE 360° Survey, 2016 (PRICE).

depicts in the case of China, referring to "the tallest spikes—the biggest cities and adjoining regions, which are growing ever higher, while the valleys (rural areas) mostly languish."

However, there is an interesting anomaly in the Indian case as seen in the data on per capita incomes in Table 4. The decline from the metro spikes to the rural valleys is not regular or continuous. The subcategory developed rural comes up as a mini spike which is a barrier that partly stems from the unremitting decline from metro areas to LBR areas.

Why are incomes lower and poverty higher in LBR and emerging rural areas compared to metros and boom towns? The data indicate three sets of reasons forming parts of the answer.

First, LBR and emerging rural areas are poorly served in comparison to other areas with diverse infrastructure. Table 6 provides data on service levels, showing how each indicator is at its highest level (spike) in metros, falling regularly as city size diminishes; and falling further in rural areas. The lowest levels are consistently found in the LBR districts. Part of the reason lies in the manner of selection. These districts have poorer scores on the 21 indicators we considered. They score poorly on multiple other indicators, showing how this selection is not determined by any particular set of indicators. LBR districts have been left behind by a multiplicity of services and infrastructures.

In each case, there is a steady gradient from metro to left-behind, with both levels falling consistently (with developed rural pushing against the trend, raising a mini spike). Low average incomes in LBR compared to metro and other urban locations are explained in one part by the relative poverty of different facilities like internet, water, roads, etc.

The second part of the explanation for lower incomes in LBR is provided by differences in education. Table 7 draws on data related to the highest levels of education in different households. For the purpose of comparison, we consider only two educational categories: below primary (less than five years of formal education) and high school-plus (12 or more years of formal education), leaving out an intermediate category (5–12 years of education).

A downward sloping urban–rural gradient of education is evident from these figures along with the stark contrasts in education that exist between metro and LBR. The highest level of education in 60% of the metro households is high school or above. However, only 25% of LBR households have reached this level of educational achievement. The highest level of achievement is below primary in 58% of LBR households.

Historically, formal education entered rural areas much later than urban areas. In many parts of rural India, there were no schools at the time when the parents and grandparents of today's young villagers were of school-going age. In generational terms, going to school is a relatively new thing in these areas (Chavan 2013; Majumder 2010). This burden of the past continues to find reflection in lower school attendance rates and overall lower educational achievements in rural (particularly LBR) areas.

The third part of the explanation for location-based differences in per capita incomes lies in the poorer job prospects that people tend to have in remote and less well-served rural areas. This is only partly a reflection of lower educational achievements. Table 6 depicts the distribution of major occupation types across the seven subcategories.

Table 6: The Gradient in Services and Access

Percent of Households	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India Average
With *katcha* (mud) homes (%)	6	6	7	12	8	17	36	20
With LPG + tap water+ toilet with running water (%)	73	58	53	39	44	21	4	29
With access to the internet (%)	46	43	35	24	32	18	9	22
With televisions (%)	96	91	90	80	86	62	39	65
Numbers of hours of electricity in 24-hour period—peak summer	22.2	21.4	20.8	19.2	20.2	17.3	15.4	18.2

Source: ICE 360° Survey, 2016 (PRICE).

Table 7: Highest Educational Achievements (share of households) (%)

Highest Education	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India Average
Below primary	19	30	32	35	33	41	58	42
Higher secondary and above	60	57	54	50	49	43	25	41

Source: ICE 360° Survey, 2016 (PRICE).

Table 8: Worse Job Prospects in Rural Areas (%)

Major Occupation	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India Average
Self-employed (SE) in agriculture	1.1	4.2	4.9	3.8	24.5	28.6	29.2	19.7
Self-employed (SE) in non-agriculture								
Petty traders	4.0	5.6	3.8	7.7	2.1	2.1	2.8	3.5
Shop owners/businesspersons	17.5	12.0	13.7	15.7	8.8	6.3	5.2	9.2
SE non-professional	7.4	9.2	8.0	7.2	5.8	3.5	3.1	5.1
SE professional	1.5	1.2	3.7	1.6	1.0	0.9	0.5	1.1
Total	30.4	28.0	29.2	32.1	17.7	12.8	11.6	18.9
Salaried								
Grade 4 employees	34.6	32.0	27.0	21.1	19.7	11.7	7.6	16.7
Clerical	4.7	1.5	1.5	1.5	0.9	0.3	0.3	1.0
Supervisory level	5.4	2.3	1.1	1.7	1.1	0.7	0.3	1.2
Officers/executives—junior	3.1	1.1	1.2	1.8	0.8	0.8	0.7	1.1
Officers/executives—Middle/seniors	1.0	0.7	0.4	0.9	0.4	0.4	0.4	0.5
Total	48.9	37.7	31.3	27.0	23.0	13.9	9.2	20.6
Labour								
Agriculture labour	0.3	1.4	5.8	2.6	8.2	9.5	8.4	6.5
Non-agriculture wage labour	13.9	21.3	22.3	25.7	19.5	26.8	30.4	25.4
Total	14.3	22.7	28.1	28.3	27.7	36.3	38.8	31.9
Others (remittances, rent, pension, etc)	5.3	7.5	6.6	8.8	7.1	8.4	11.3	8.9
All India	100	100	100	100	100	100	100	100

Source: ICE 360° Survey, 2016 (PRICE).

Consider two principal occupation types: salaried employees and self-employed shop owners and businesspersons. Salaried employees, earning regular incomes, have a more reliable cash flow. This is an important part of getting out of poverty, particularly in an informal economy. Shop owners and businesspersons constitute another employment category whose incomes tend to be both stable and above average. The share of salaried employees falls from just under half in metros to less than 10% in LBR areas. And the share of shop owners and businesspersons falls from 17.5% in metros to 5.2% in LBR. Correspondingly, the share of those whose principal means of earnings is labour, which is the lowest paid and most uncertain source of income, goes up from 14% in metros to 39% in LBR.

These poorer job prospects form a large part of the reason behind the lower per capita incomes in rural areas. To some degree, the lower educational achievements of people in rural compared to urban areas, and more starkly, in LBR compared to metro areas are responsible for producing the less well-paid employment profile of LBR. But this is hardly the full explanation. A very large share of the salaried are grade 4 employees: attendants, bundle lifters, fetchers of tea, and servers of water. More than 75% of the salaried in every locational subcategory are grade 4 employees. Recruitment to these positions usually does not require a higher educational qualification. This makes it hard to understand why LBR people capture so few and metro and boom town people capture so many of these positions. Apart from educational inequalities, a locational disadvantage seems to be separately implied that requires further investigation.

Inequalities in earning potentials find reflection in the shares of those who avail themselves of grain from the public distribution system (PDS) (Table 9). These numbers increase regularly from the left to the right of the table, showing how need and uptake increase consistently from metros to LBR.

However, in each subcategory of location, supermajorities consider the PDS very important for family welfare. For policymakers, this is a point worth noting. That many (or even most) people in rural areas are net consumers of food is another interesting revelation which we revisit subsequently.

Overlapping Inequalities: The Geography of Poverty

In this section, we consider simultaneously two axes of classification: location subcategories and per capita income quintiles. The poorest people are in Q1, the lowest income quintile, and the richest are in Q5. Considering five quintiles in addition to seven location types gives rise to $5 \times 7 = 35$ cell locations that help in outlining different geographies of poverty.

Table 10 begins this analysis by looking at the geography of service provisions. It considers two services commonly regarded as essential at the present time (and are, in fact, availed by 95% of people in metro areas): tap water and cooking gas. The tables are in the format of heat maps. Cell colours range from dark orange (most severe under-provision) through lighter orange and yellow to dark green (least under-provided). The reddest part of each table is the part where service provision is the poorest.

In both the cases, the lowest income quintiles in LBR and emerging rural districts are exposed to the lowest levels of service provision. The same pattern of inequality is repeated in relation to other kinds of services. Cable/television access and mobile phone ownership are at the lowest levels within the same districts and quintiles. These are also the locations from which hospitals and clinics are the most distant. Therefore, in multiple ways, these people and these locations are underprovided with services.

The same geography of inequality is reinforced by income earning capacities. Table 11 considers the share of households who have at least one

Table 9: High Reliance on the Public Distribution System (%)

Share of Households Who	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India Average
Obtain foodgrains from PDS	38.5	57.6	61.4	59.1	64.2	69.2	69.1	63.4
Believe that PDS is very important or quite important for family welfare	78	83	86	91	92	91	93	90

Source: ICE 360° Survey, 2016 (PRICE).

Table 10: Geography of Service Provision (%)

All-India Per Capita Quintile	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India Average
Tap water								
Q1 (bottom 20%)	64	55	75	45	63	25	10	18
Q2	86	73	63	51	63	33	17	31
Q3	94	74	80	64	78	51	24	51
Q4	95	81	74	75	75	62	36	65
Q5 (top 20%)	97	86	90	79	72	70	48	77
Total	95	81	80	67	73	51	22	52
Liquid petroleum gas/piped gas								
Q1 (bottom 20%)	79	67	35	37	44	24	7	15
Q2	88	69	49	64	51	36	16	32
Q3	91	82	77	67	62	47	23	49
Q4	93	88	86	85	79	60	37	69
Q5 (top 20%)	97	98	98	94	88	75	58	86
Total	95	90	81	76	74	51	22	54

Source: ICE 360° Survey, 2016 (PRICE). Table with colour coding is available online.

Table 11: Less Economic Security—Fewer Salary Earners in LBR and Emerging Rural
(% of household with salary as a source of income)

All-India Per Capita Quintile	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India Average
Q1 (bottom 20%)	17	18	14	12	11	5	4	5
Q2	25	32	18	23	16	9	6	11
Q3	38	31	25	22	18	12	8	16
Q4	45	38	29	27	23	16	16	24
Q5 (top 20)	54	42	43	38	29	23	27	36
Total	49	38	31	27	23	14	9	20

Source: ICE 360° Survey, 2016 (PRICE).

salary earner. Earning a regular salary is an important aspect of financial security and is regarded by some as an identifier of middle-class status (Banerjee and Duflo 2008). The greater the share of regular salary earners in any social group, the greater is its ability to overcome crises and financial instability.

Across income quintiles, people in LBR are much less likely to have salaried positions. Those in metros are more than five times as likely to have economic security through this route compared to people in LBR.

The geography of earning patterns reinforces the unequal patterns of the geography of service provision. The worst-off in terms of earnings are, once again, Q1–Q3 in LBR and Q1 and Q2 in emerging rural areas.

The geography of educational attainment casts an identical shadow (Table 12). Poorer people in LBR, hit by worst service provisions and employment prospects, also have the lowest educational achievements. The confluence of economically depressing factors is most acutely experienced by the people of LBR.

Table 12: Less-educated Households Are More Prevalent in Left-behind Rural Areas

(% of households in which below primary is the highest level of education achievement)

All-India Per Capita Quintile	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India Average
Q1 (bottom 20%)	9	10	12	15	16	19	27	24
Q2	5	11	11	14	14	15	24	19
Q3	3	8	10	14	16	14	26	18
Q4	3	7	9	11	11	14	25	14
Q5 (top 20)	2	5	7	9	13	22	21	12
Total	3	7	9	12	13	1	25	17

Source: ICE 360° Survey, 2016 (PRICE).

Unfortunately, the pattern of government assistance reinforces rather than counters the overlapping geographic inequalities. Data represents the recurrence of a worrying urban bias in which public projects are located preferentially in villages that are closer to towns and have better infrastructure (Lipton 1977). In fact, this seems to be happening in relation to the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), the flagship government programme that provides wage labour to bolster the incomes of the poorest. In terms of financial outlay, it is second only to the PDS (Table 13).

Table 13: Average Number of Person-days Worked through Previous Year in MGNREGA

	Developed Rural	Emerging Rural	Left-behind Rural
Average number of person-days worked in a year			
Q1 (bottom 20%)	72	32	43
Q2	79	34	35
Q3	78	56	37
Q4	70	55	34
Q5 (top 20%)	89	49	51
Total	81	45	39
Share of all agricultural labour households	13.2%	28.1%	46.0%

Source: ICE 360° Survey, 2016 (PRICE).

The average number of person-days worked in the MGNREGA projects is twice as much in developed rural than in LBR (81 v 39 days). Further, Q5 households have a higher number of workdays on an average as compared to Q1 households. These indications of misallocation need to be verified more widely, and if confirmed, it should result in remedial public action.

We next consider expenditures on food, healthcare and education. Table 14 reports expenditures on food, showing how the poorest 40% in rural areas spend more than half of their incomes on food. The poorest 40% in boom towns and niche cities spend the same on food. It is a myth that the rural poor survive on home production. Most need to earn a cash income to buy the food their families need. The same is true for the bottom half in urban areas. Both need better earning opportunities and better preparation going forward.

Poorer people spend a greater share of their incomes on health compared to the rich in India (Table 17, p 63). Within each location type, the share of income spent on health is highest for Q1, falls as income increases, and is lowest for Q5. For example, Q1 and Q5 in developed rural areas spend 12.3% and 3.3% of their income on healthcare which is a considerable difference.

The share of income spent on healthcare is greater in rural areas, 8.4% in LBR districts as compared to 4.5% in metros. Thus, in addition to socio-economic status, location matters.

Notably, the numbers reported here relate to out-of-pocket expenditures. When these numbers grow, they become catastrophic, ruin families financially, resulting in chronic poverty. Such high rate of out-of-pocket expenses is one reason why vulnerability, especially among the poorer quintiles and in

Table 14: The Majority of Income Is Spent on Food by Urban and Rural Poor

(% of income spent on food)

All-India Per Capita Quintile	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India Average
Q1 (bottom 20%)	80	58	62	58	62	62	62	62
Q2	58	53	50	51	52	53	52	52
Q3	50	46	44	46	45	47	46	46
Q4	42	40	38	39	38	39	38	39
Q5 (top 20%)	26	28	29	26	28	31	26	27
Total	31	34	35	36	35	41	45	38

Source: ICE 360° Survey, 2016 (PRICE).

Table 15: Rural and Poor Spend More on Healthcare

(% of income spent on health)

All-India Per Capita Quintile	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India average
Q1 (bottom 20%)	11.0	8.6	9.4	9.4	12.3	10.6	10.8	10.6
Q2	8.0	7.5	7.6	8.6	7.6	9.9	10.5	9.7
Q3	7.4	6.0	6.5	7.1	5.7	7.8	8.2	7.3
Q4	5.5	4.9	5.1	6.9	4.5	6.7	7.3	6.2
Q5 (top 20%)	4.0	3.6	4.2	5.1	3.3	4.8	5.4	4.4
Total	4.5	4.3	5.0	6.3	4.4	7.0	8.4	6.3

Source: ICE 360° Survey, 2016 (PRICE).

Table 16: Across-the-board Parents Spend on Education

(% of income spent on education)

All-India Per Capita Quintile	Metro	Boom Town	Niche Cities	Rest of Urban	Developed Rural	Emerging Rural	Left-behind Rural	All-India Average
Q1 (bottom 20%)	7.3	4.4	7.0	4.8	7.1	5.9	4.5	4.9
Q2	7.3	7.2	5.7	4.9	5.3	5.8	4.4	5.0
Q3	5.9	6.2	4.8	5.7	5.0	5.4	4.3	5.1
Q4	6.4	4.7	4.9	5.6	4.5	5.1	5.1	5.2
Q5 (top 20%)	6.3	6.1	5.1	5.7	4.1	4.8	5.3	5.4
Total	6.4	5.8	5.1	5.6	4.4	5.2	4.7	5.2

Source: ICE 360° Survey, 2016 (PRICE).

rural areas, is high in India compared to other countries (Krishna 2018).

Table 16 looks at education. People in metros spend a greater share of income on education. Correspondingly, a larger share of young people in metros attend universities. However, people in rural areas prioritise educational expenses as well. Even the poorest in LBR spend nearly 5% of income on educating children.

Education is a common aspiration for parents across-the-board. Hopefully, in the years to come it will be reflected in more secure earning positions, more widely across the locational and socio-economic spectrums.

Changes over Time and the Explosive Emergence of 'Developed Rural'

Because the ICE sample draws upon subcategories that were defined using the Census data of 2011, the sample and the census are comparable. Tables 17 and 18 elaborate on how a variety of services and assets have grown in each subcategory over the five-year period, 2011–16.

Table 17 shows that the overall gains in service provision have been impressive over this period. However, more impressive than any other subcategory, have been the gains in developed rural areas. For instance, take the coverage of tap water, which grew from 22% to 53% in the average location but rose another 20 percentage points in developed rural areas (growing from 21%–73%). Coverage of liquified petroleum gas (LPG)/piped natural gas (PNG) also leapt from 28%–74% in developed rural areas.

The story in respect of household asset growth is similar. Table 18 looks at households' ownership rates of three kinds of transportation assets. Once again, the gains in developed rural areas outstrip comparable advances in other subcategories. In relation to all three types of transportation assets, the gains in developed rural areas are greater than those of metros and greater than those of other urban and rural subcategories.

More rapid change in developed rural areas, at the cusp of the urban–rural interface, requires closer examination. Why has this group of villages achieved such impressive gains?

Future research will be revealing in this regard, but two facts are worth mentioning here. First, a little over 40% of developed rural districts are located close to large cities. Thus, Bengaluru, Delhi, Gurugram, Chandigarh all have developed rural enclaves. Others like rural Meerut, Kozhikode, Bathinda, Jamnagar are in close proximity to large cities. Second, the number of salaried households in developed rural areas is twice as much as the rural average and almost on par with small towns.

Table 17: Changes in Service Provision, 2011–16 (%)

Geographic Clusters	Percent Households Having							
	Electricity		Tap Water		LPG/PNG		Latrine	
	2011	2016	2011	2016	2011	2016	2011	2016
Metros	98	100	68	95	78	95	85	87
Boom towns	95	98	50	81	71	90	89	89
Niche cities	92	98	48	80	65	81	84	86
Rest of urban	89	95	41	67	58	76	76	82
Developed rural	88	98	21	73	28	74	60	84
Emerging rural	54	86	8	51	10	51	28	56
Left-behind rural	35	76	2	22	3	22	17	38
All India	67	88	22	53	28	55	47	63

Source: Census (2011) and ICE 360° Survey, 2016 (PRICE).

Table 18: Growth of Transportation Assets, 2011–16 (%)

Geographic Clusters	% Households that Own					
	Bicycle		Scooter/ Motorcycle		Car/Jeep/ Van	
	2011	2016	2011	2016	2011	2016
Metros	29	37	34	53	14	21
Boom towns	44	53	43	63	12	28
Niche cities	42	55	39	54	12	27
Rest of urban	47	57	33	39	7	13
Developed rural	38	56	27	52	6	25
Emerging rural	49	60	14	30	2	4
Left-behind rural	45	65	7	21	1	2
All India	45	58	21	35	5	11

Source: Census (2011) and ICE 360° Survey, 2016 (PRICE).

In Conclusion

Unbundling the urban–rural dichotomy and considering a spectrum of locations spanning the continuum from metro cities to LBR areas helps in picking up on the current trends and emergent indicators. We conclude by bringing together the main findings.

Geographic inequalities are large. On diverse indicators, metros (home to 6.8% of the population) are far ahead of LBR (accounting for 37% of the population). The average income in metros is 2.7 times of those in LBR. Despite years of rural–urban migration and the undoubtedly large growth of native-born urban poverty, the greatest concentrations of the poorest in India are still in remote rural areas. Nearly 70% of India's poorest 20% are in LBR. Hardly anyone lives in metros or boom towns. Contrarily, the richest 20% are over-represented by a factor of three in metros and under-represented by the same factor in LBR.

The inequalities across location subcategories are cumulative in nature. In multiple important respects, metros and boom towns are far ahead, and LBR is the furthest behind. There is an interesting anomaly in an otherwise regularly downward sloping gradient of economic performance and service provision. Every indicator falls as one moves along the subcategories from metro through boom town, niche city, to LBR. However, in each case, there is a mini-spike in developed rural areas. This subcategory has experienced explosive improvement. The sources behind the impetus for this rapid development need to be fully examined.

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In terms of the two largest public support programmes, the PDS is highly valued across all locations. The MGNREGA is also highly valued, though, there is a need to investigate a possible mismatch between need and availability.

Both the urban and rural poor spend most of their incomes on sustenance. The poorest 20% in rural areas spend nearly two-thirds of their incomes on food.

Notably, the poorest spend 10% or more of their incomes on healthcare and education. The richest spend proportionately more on education and less on healthcare.

Going beyond a simple dichotomy and unbundling rural and urban into subcategories helps reveal the different natures and speeds of developments in separate kinds of locations. Bearing these distinctions in mind helps locate policy actions more accurately and effectively.

NOTES

1 Analyses have shown, for instance, how "countries with unusually high levels of inequality are those where the urban–rural gap is unusually large" (Young 2013: 1728); mean consumption in rural areas is two to three times smaller than in urban areas (Dudwick et al 2011); agricultural workers are more than four times as likely to be poor as people employed in the urban parts of the economy (World Bank 2016); and that three-quarters of the developing world's poor people live in its rural areas (Ravallion et al 2009). Kanbur and Venables (2005) bring together studies examining growing spatial inequality in diverse developing and transitional countries. Atkinson (2015), Florida (2008), Moretti (2012) and Sassen (2001) make the general argument: under globalisation, cities, especially the largest ones, acquiring an ever more central place in economic flows, have benefited disproportionately.

2 Socio-economic characteristics as well as administrative judgment went into the identification of aspirational districts. See https://www.niti.gov.in/sites/default/files/2018-12/Transformation-of-AspirationalDistricts-Primer-ANew-India2022.pdf.

3 For instance, Krishna and Bajpai (2011) show how villages at different distances from cities are significantly different from each other in terms of a variety of socio-economic indicators. In another context, that is of Tanzania, Wineman et al (2020) show how the effects of economic change are visibly different depending on how rural and urban are defined and subcategorised.

4 For more details about the survey procedures, refer https://www.ice360.in/app/uploads/2021/06/ICE360-Survey-2016-about-survey.pdf.

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I, Gauraang Pradhan, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Mumbai
March 4, 2023

(Gauraang Pradhan)
Signature of Publisher

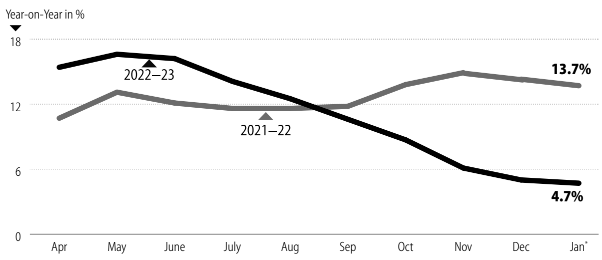
Wholesale Price Index

The year-on-year (y-o-y) WPI-based inflation rate decreased to 4.7% in January 2023 from 13.7% registered a year ago and 5.0% a month ago. The index for primary articles grew by 3.9% compared to 15.6% a year ago but was higher than 2.4% a month ago. The rate of inflation of food articles decreased to 2.4% from 10.4% a year ago. The index for fuel and power grew by 15.2% compared to 34.4% a year ago while that for manufactured products grew by 3.0% compared to 9.5%.

Consumer Price Index

The CPI-inflation rate rose to 6.5% in January 2023 from 6.0% reported a year ago and 5.7% a month ago. The consumer food price index increased by 5.9% compared to 5.4% a year ago and 4.2% a month ago. The CPI-rural inflation rate increased to 6.9% and urban inflation rate to 6.0% from 6.1% and 5.9% a year ago. According to Labour Bureau data, the CPI for agricultural labourers (CPI–AL) increased to 6.8% in January 2023 from 5.5% a year ago and the CPI for industrial workers (CPI–IW) increased to 6.2% from 5.8%.

Movement of WPI Inflation April–January



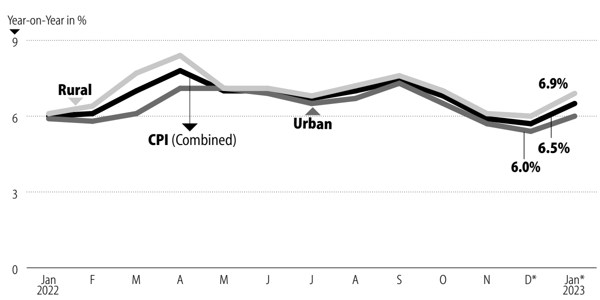
* Data is provisional; Base: 2011–12 = 100.

Trends in WPI and Its Components January 2023* (%)

	Weights	Over Month	Over Year	Financial Year (Averages) 2019–20	2020–21	2021–22
All commodities	100	0.1	4.7	1.7	1.3	13.0
Primary articles	22.6	0.9	3.9	6.8	1.7	10.2
Food articles	15.3	0.9	2.4	8.4	3.2	4.1
Fuel and power	13.2	-1.4	15.2	-1.8	-8.0	32.5
Manufactured products	64.2	0.1	3.0	0.3	2.8	11.1

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

Movement of CPI Inflation January 2022–January 2023



* January 2023 is provisional.
Source: National Statistical Office (NSO); Base: 2012=100.

Inflation in CPI and Its Components January 2023* (%)

	Weights	Latest Month Index	Over Month	Over Year	Financial Year (Avgs) 2020–21	2021–22
CPI combined	100	176.5	0.5	6.5	6.2	5.5
Consumer food	39.1	174.7	0.3	5.9	7.7	3.8
Miscellaneous	28.3	172.8	0.5	6.2	6.6	6.7

CPI: Occupation-wise

	Weights	Latest Month Index	Over Month	Over Year	2020–21	2021–22
Industrial workers (2016=100)		132.8	0.4	6.2	5.0	5.1
Agricultural labourers (1986–87=100)		1170.0	0.3	6.8	5.5	4.0

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

Foreign Trade

The trade deficit widened to $17.8 bn in January 2023 from $17.3 bn registered a year ago. Exports decreased by (-)6.6% to $32.9 bn from $35.2 bn a year ago and imports by (-)3.6% to $50.7 bn from $52.6. Oil imports stood higher at $14.7 bn while non-oil imports was lower at $36.0 bn compared to $12.4 bn and $40.2 bn, respectively. During April–January 2022–23, the cumulative exports rose by 8.5% to $369.3 bn and imports by 21.9% to $602.2 bn compared to their respective figures of $340.3 and $494.1 bn during the same period last year.

Index of Industrial Production

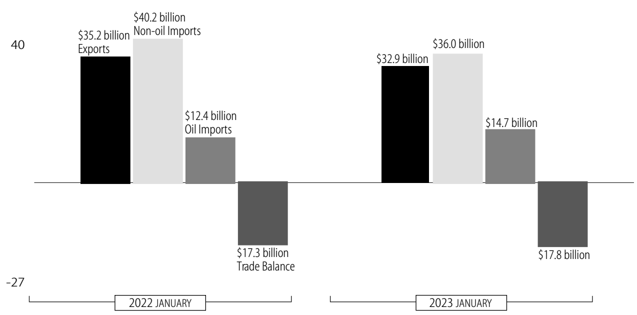
The y-o-y growth rate of IIP rose to 4.3% in December 2022 from 1.0% registered a year ago with that of manufacturing segment increasing to 2.6% from 0.6%. Production in the mining sector increased by 9.8% compared to 2.6% a year ago and electricity generation to 10.4% from 2.8%. As per use-based classification, growth rate in the capital goods segment rose to 7.6% and infrastructure goods to 8.2% from -3.0% and 2.0% a year ago. Production of consumer durables declined by (-)10.4% compared to -1.9% and non-durables by 7.2% compared to 0.3%.

Merchandise Trade January 2023

	January 2023 ($ bn)	Over Month (%)	Over Year (%)	April–January (2022–23 over 2021–22) (%)
Exports	32.9	-4.6	-6.6	8.5
Imports	50.7	-13.0	-3.6	21.9
Trade balance	-17.8	-25.3	2.4	51.5

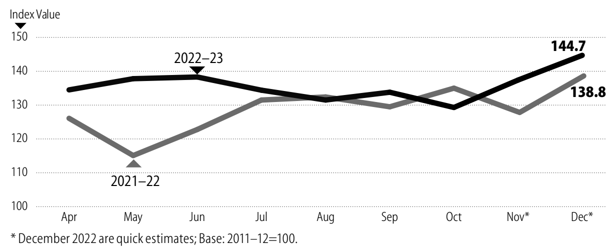
Data is provisional. Source: Ministry of Commerce and Industry.

Components of Trade January 2022 and January 2023



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

Movement of IIP April–December



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

Industrial Growth: Sector-wise December 2022* (%)

	Weights	Over Month	Over Year	Financial Year (Avgs) 2020–21	2021–22
General index	100	5.3	4.3	-8.4	11.4
Mining	14.4	7.7	9.8	-7.8	12.2
Manufacturing	77.6	4.7	2.6	-9.6	11.8
Electricity	8.0	7.6	10.4	-0.5	7.9

Industrial Growth: Use-based

	Weights	Over Month	Over Year	2020–21	2021–22
Primary goods	34.0	9.2	8.3	-7.0	9.7
Capital goods	8.2	0.2	7.6	-18.6	16.9
Intermediate goods	17.2	3.6	-0.3	-9.4	15.4
Infrastructure/Construction goods	12.3	4.0	8.2	-8.7	18.8
Consumer durables	12.8	-2.2	-10.4	-15.0	12.5
Consumer non-durables	15.3	7.4	7.2	-2.2	3.2

*December 2022 are quick estimates; Base: 2011–12=100.
Source: NSO, Ministry of Statistics and Programme Implementation.

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	2020–21 Q1	2020–21 Q2	2020–21 Q3	2020–21 Q4	2021–22 Q1	2021–22 Q2	2021–22 Q3	2021–22 Q4	2022–23 Q1	2022–23 Q2
Private final consumption expenditure	1532170 (-23.7)	1839177 (-8.3)	2169131 (0.6)	2223256 (6.5)	1753400 (14.4)	2031624 (10.5)	2330425 (7.4)	2262405 (1.8)	2207981 (25.9)	2229572 (9.7)
Government final consumption expenditure	429241 (13.6)	322530 (-22.9)	344609 (-0.3)	441224 (29.0)	408789 (-4.8)	351138 (8.9)	354889 (3.0)	462316 (4.8)	414210 (1.3)	335844 (-4.4)
Gross fixed capital formation	654479 (-45.3)	1044735 (-4.5)	1128117 (-0.6)	1303947 (10.1)	1063543 (62.5)	1197408 (14.6)	1152014 (2.1)	1371090 (5.1)	1277806 (20.1)	1321667 (10.4)
Change in stocks	-1995 (-107.4)	-3048 (-111.3)	-3040 (-111.7)	-3490 (-112.4)	43907 (-2301.0)	47531 (-1659.6)	45050 (-1581.7)	51450 (-1574.2)	36262 (-17.4)	38305 (-19.4)
Valuables	3790 (-91.4)	52356 (18.3)	50917 (37.2)	100918 (156.9)	23329 (515.6)	142228 (171.7)	77891 (53.0)	51597 (-48.9)	34839 (49.3)	108764 (-23.5)
Net trade (Export–Import)	6189	-28433	-119730	-167215	-96309	-174012	-227446	-205582	-298413	-328687
Exports	523643 (-25.5)	659753 (-6.4)	645694 (-8.6)	724592 (3.7)	737146 (40.8)	795994 (20.7)	794990 (23.1)	846715 (16.9)	845323 (14.7)	887678 (11.5)
Less Imports	517454 (-41.1)	688186 (-17.9)	765424 (-5.2)	891807 (11.7)	833455 (61.1)	970006 (41.0)	1022436 (33.6)	1052297 (18.0)	1143736 (37.2)	1216365 (25.4)
Discrepancies	79724 (17.0)	83612 (-8.0)	56217 (-6963.7)	19085 (-92.0)	49775 (-37.6)	-6738 (-108.1)	89056 (58.4)	84749 (344.1)	12439 (-75.0)	111114 (-1749.1)
Gross domestic product (GDP)	2703598 (-23.8)	3310930 (-6.6)	3626220 (0.7)	3917725 (2.5)	3246434 (20.1)	3589178 (8.4)	3821878 (5.4)	4078025 (4.1)	3685125 (13.5)	3816578 (6.3)

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

Item	2021–22 ($ mn) Q1	Q2	Q3	Q4	2022–23 ($ mn) Q1	Q2	2021–22 (₹ bn) Q1	Q2	Q3	Q4	2022–23 (₹ bn) Q1	Q2
Current account	6559	-9734	-22167	-13424	-18178	-36391	484 [0.9]	-721 [-1.3]	-1661 [-2.6]	-1010 [-1.5]	-1403 [-2.2]	-2904 [-4.4]
Merchandise	-30715	-44511	-59750	-54483	-63020	-83546	-2266	-3298	-4477	-4099	-4864	-6667
Invisibles	37275	34777	37583	41059	44842	47155	2750	2577	2816	3089	3461	3763
Services	25808	25579	27809	28319	31070	34432	1904	1895	2084	2130	2398	2748
of which: Software services	25136	26781	28356	29266	30692	32681	1854	1984	2125	2202	2369	2608
Transfers	19013	18991	21312	21132	22851	24751	1403	1407	1597	1590	1764	1975
of which: Private	19222	19212	21447	21350	23065	24991	1418	1423	1607	1606	1780	1994
Income	-7547	-9792	-11538	-8392	-9079	-12028	-557	-726	-865	-631	-701	-960
Capital account	25392	39622	22500	-1707	22094	6918	1873 [3.7]	2936 [5.2]	1686 [2.7]	-128 [-0.2]	1705 [2.6]	552 [0.8]
of which: Foreign investment	11956	12575	-1283	-1439	-1048	12969	882	932	-96	-108	-81	1035
Overall balance	31870	31189	465	-16024	4595	-30379	2351 [4.6]	2311 [4.1]	35 [0.1]	-1205 [-1.8]	355 [0.5]	-2424 [-3.7]

Figures in square brackets are percentage to GDP.

■ Foreign Exchange Reserves

Excluding gold but including revaluation effects	17 February 2023	18 February 2022	31 March 2022	Variation: Over Month	Over Year	Financial Year So Far 2021–22	Financial Year So Far 2022–23	Financial Year 2017–18	2018–19	2019–20	2020–21	2021–22
₹ crore	4260321	4376853	4237617	2543	-116532	441822	22704	353270	68050	668976	590416	302585
$ mn	514339	586222	559615	-10451	-71883	48043	-45276	53217	-14168.4	56831.4	94535	21435

■ Monetary Aggregates

₹ Crore	Outstanding 2023	Variation: Over Month	Over Year	Financial Year So Far 2021–22	Financial Year So Far 2022–23	Financial Year 2019–20	2020–21	2021–22
Money supply (M_3) as on 10 February	21988277	145601 (0.7)	1902273 (9.5)	1241427 (6.6)	1494548 (7.3)	1367897 (8.9)	2044614 (12.2)	1649152 (8.8)
Components								
Currency with public	3207073	43343 (1.4)	231364 (7.8)	223880 (8.1)	171384 (5.6)	297539 (14.5)	402080 (17.1)	283860 (10.3)
Demand deposits	2231412	15551 (0.7)	198962 (9.8)	37329 (1.9)	18420 (0.8)	111179 (6.8)	257429 (14.8)	217871 (10.9)
Time deposits	16485963	85205 (0.5)	1460701 (9.7)	974984 (6.9)	1299359 (8.6)	952412 (8.1)	1376262 (10.9)	1136326 (8.1)
Other deposits with RBI	63830	1504 (2.4)	11245 (21.4)	5234 (11.1)	5386 (9.2)	6765 (21.3)	8844 (23.0)	11093 (23.4)
Sources								
Net bank credit to government	6784046	30210 (0.4)	626061 (10.2)	307612 (5.3)	306417 (4.7)	571872 (13.0)	890011 (17.9)	627256 (10.7)
Bank credit to commercial sector	14154572	148189 (1.1)	1884525 (15.4)	601580 (5.2)	1538051 (12.2)	655925 (6.3)	629823 (5.7)	948054 (8.1)
Net foreign exchange assets	4767235	22357 (0.5)	-106883 (-2.2)	295272 (6.4)	-86828 (-1.8)	730196 (23.8)	777810 (20.5)	275217 (6.0)
Banking sector's net non-monetary liabilities	3747366	55345 (1.5)	503456 (15.5)	-36111 (-1.1)	264870 (7.6)	590557 (24.2)	253594 (8.4)	202475 (6.2)
Reserve money as on 17 February	4285987	24418 (0.6)	402201 (10.4)	283805 (7.9)	217101 (5.3)	259224 (9.4)	570275 (18.8)	468905 (13.0)
Components								
Currency in circulation	3330335	51622 (1.6)	253197 (8.2)	223375 (7.8)	196618 (6.3)	310541 (14.5)	406451 (16.6)	279954 (9.8)
Bankers' deposits with RBI	888699	-30536 (-3.3)	136878 (18.2)	52954 (7.6)	11973 (1.4)	-58081 (-9.6)	154979 (28.5)	177859 (25.4)
Other deposits with RBI	66954	3333 (5.2)	12126 (22.1)	7477 (15.8)	8510 (14.6)	6765 (21.3)	8844 (23.0)	11093 (23.4)
Sources								
Net RBI credit to Government	1248754	18256 (1.5)	-10829 (-0.9)	159898 (14.5)	-201842 (-13.9)	190240 (23.7)	107494 (10.8)	350911 (31.9)
of which: Centre	1236371	24889 (2.1)	-19189 (-1.5)	159215 (14.5)	-212601 (-14.7)	189267 (23.6)	106605 (10.8)	352627 (32.2)
RBI credit to banks & commercial sector	30034	14574 (94.3)	684472 (-104.6)	-285081 (77.2)	573735 (-105.5)	-353744 (-231.4)	-168464 (0.0)	-174344 (0.0)
Net foreign exchange assets of RBI	4482971	-7995 (-0.2)	-67897 (-1.5)	351467 (8.4)	40491 (0.9)	741814 (26.0)	608999 (17.0)	243079 (5.8)
Govt's currency liabilities to the public	29791	191 (0.6)	2026 (6.6)	852 (3.2)	1778 (6.3)	461 (1.8)	565 (2.1)	1100 (4.1)
Net non-monetary liabilities of RBI	1505561	607 (0.0)	205571 (15.8)	-56669 (-4.2)	197061 (15.1)	319547 (30.2)	-21683 (-1.6)	-48159 (-3.5)

■ Scheduled Commercial Banks' Indicators *(₹ Crore)*

(As on 10 February)	Outstanding 2023	Variation: Over Month	Over Year	Financial Year So Far 2021–22	Financial Year So Far 2022–23	Financial Year 2019–20	2020–21	2021–22
Aggregate deposits	17773801	99429 (0.6)	1645668 (10.2)	1014621 (6.7)	1308488 (7.9)	993721 (7.9)	1546019 (11.4)	1351801 (8.9)
Demand	2091828	16609 (0.8)	197652 (10.4)	32983 (1.8)	19081 (0.9)	105716 (7.0)	244190 (15.1)	211554 (11.4)
Time	15681973	82820 (0.5)	1448015 (10.2)	981638 (7.4)	1289407 (9.0)	888005 (8.0)	1301831 (10.9)	1140246 (8.6)
Cash in hand	105816	-402 (-0.4)	18977 (21.9)	-3909 (-4.3)	19890 (23.1)	12385 (16.5)	3487 (4.0)	-4822 (-5.3)
Balance with RBI	805398	4494 (0.6)	159431 (24.7)	103274 (19.0)	121960 (17.8)	-29521 (-5.2)	6507 (1.2)	140745 (25.9)
Investments	5267472	67001 (1.3)	596561 (12.8)	208386 (4.7)	538525 (11.4)	366292 (10.8)	715176 (19.1)	266422 (6.0)
of which: Government securities	5266624	67006 (1.3)	596937 (12.8)	208055 (4.7)	538446 (11.4)	359695 (10.6)	722935 (19.3)	266546 (6.0)
Bank credit	13417468	136091 (1.0)	1855705 (16.1)	714475 (6.6)	1526154 (12.8)	496916 (5.1)	578649 (5.6)	1044026 (9.6)
of which: Non-food credit	13373172	144449 (1.1)	1889389 (16.5)	697749 (6.5)	1536868 (13.0)	486763 (5.0)	569159 (5.6)	1050270 (9.7)

■ Capital Markets

	24 February 2023	Month Ago	Year Ago	Financial Year So Far Trough	Financial Year So Far Peak	2021–22 Trough	2021–22 Peak	End of Financial Year 2019–20	2020–21	2021–22
S&P BSE SENSEX (Base: 1978–79=100)	59464 (9.0)	60979	54530 (7.4)	51360	63284	47706	61766	29816 (-21.8)	49009 (63.7)	57362 (18.4)
S&P BSE-100 (Base: 1983–84=100)	17695 (7.6)	18388	16450 (8.6)	15563	19137	14482	18800	8693 (-25.2)	14689 (68.2)	17423 (20.1)
S&P BSE-200 (1989–90=100)	7409 (6.1)	7831	6984 (9.6)	6603	8145	6136	8025	3614 (-25.1)	6211 (71.1)	7412 (20.9)
CNX Nifty-50 (Base: 3 November 1995=1000)	17466 (7.5)	18118	16248 (8.4)	15294	18813	14296	18477	8660 (-24.3)	14507 (67.9)	17153 (19.7)
CNX Nifty-500	14630 (6.2)	15389	13776 (10.6)	12951	16004	12024	15886	7003 (-26.3)	12149 (73.7)	14652 (22.2)

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.

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*.

Trustees, Sameeksha Trust and Editor, *EPW*

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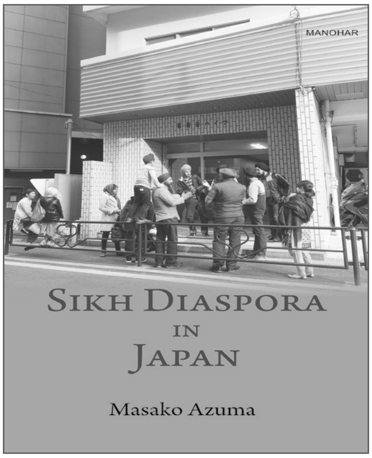

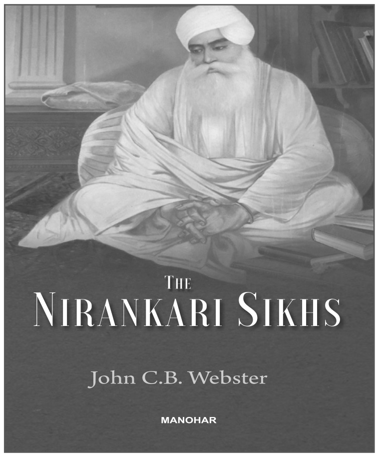

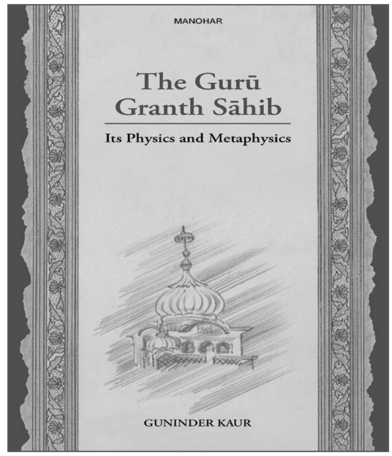

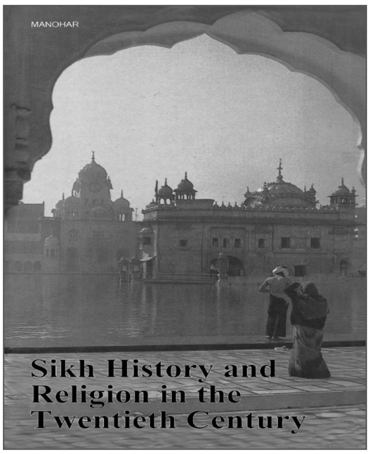

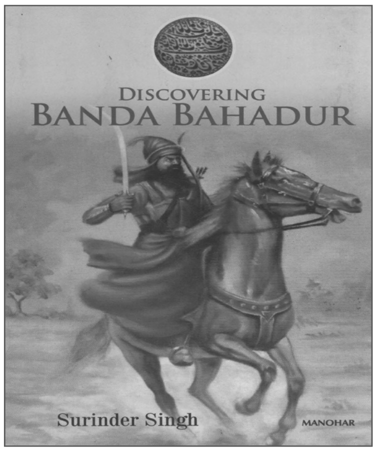

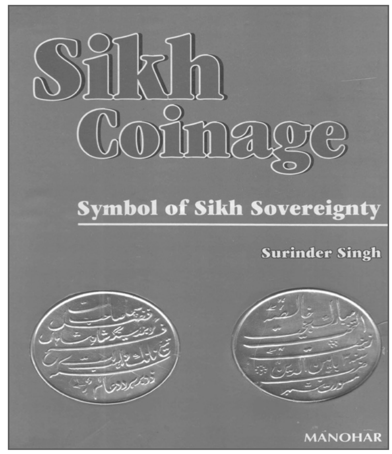

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