State of Finance in India Report
2022-23
STATE OF FINANCE IN INDIA REPORT
2022–2023
**CONTENTS**

*Preface* ........................................................................................................................................................................... vii

**SECTION I: IN FOCUS: CLIMATE FINANCE**

Indian Bank’s Response to Climate Crisis ................................................................................................................. 3  
*Amitanshu Verma & Priya Dharshini*

Hydrocolonialism in India’s Tryst with the Transition ......................................................................................... 9  
*Mansi Asher*

The Political Economy of Climate Finance ................................................................................................................ 15  
*Rohit Azad & Shouvik Chakraborty*

Global Players, Money and Understanding the Mechanisms Involved in Climate Finance Since the Paris Agreement ................................................................. 21  
*Shantanu Srivastava*

Unpacking Climate Expenditure in Union and State Budgets ............................................................................. 29  
*Shivika Solanki & Rini Dutt*

Carbon Markets and the CDM Experience in India ............................................................................................... 41  
*Soumya Dutta & MAUSAM Trust*

Who Will Pay The Price Of Low Carbon Transition .......................................................................................... 51  
*Suranjali Tandon*

**SECTION II: SECTORAL OVERVIEW**

**Infrastructure**

Conceptualization and Implication of the National Monetisation Pipeline ................................................................. 59  
*Chirashree Das Gupta*

Smart Cities Mission: A Status Review ................................................................................................................. 65  
*Gaurav Dwivedi & Kenneth Gomes*

**Health**

State of Health Financing in India: The Myth of OOP Reduction ......................................................................... 71  
*Indranil*
Energy
A Well-Oiled Machine: Evaporating Subsidies, Record Tax Collections, Inflation and Corporate Super Profits ..............................................................79
   Om Prakash

Taxation
Decoding the Indian Tax System ...........................................................................................................85
   Prasanna Mohanty

Social Spending
Making Sense of Welfare Cuts At a Time of Massive Corporate Loan Waivers..................................93
   Rosamma Thomas

Margins
Differential Job Concentration and Sub-Optimal Work Choices: Decoding Why Minorities Continue to Remain at the Margins ........................................99
   Simin Akhter Naqvi

Banking
History of Indian Banking: Past to the Future .....................................................................................109
   Soumyadip Roy & Sudipta Sen

Non-Performing Assets As an Instrument of Income Redistribution..................................................115
   Zico Dasgupta

About the Authors ................................................................................................................................123
This edition of the State of Finance in India report focuses on the failure of the international community to meet the promises made more than a decade ago: to deliver the required climate finance. This is essential to help mitigate carbon emissions, support adaptation to inevitable climate change and compensate vulnerable countries for the loss and damage inflicted by ongoing climate change. Recognizing the crucial role of finance in realizing the climate agenda, Article 2.1(c) of the Paris Agreement called for ‘making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.’

But that call went only part of the way. It did not lay out a clear and verifiable definition of climate finance. It did not work out clear mechanisms to assess financing needs. It did not define how the financing burden should be shared among different entities, or at the very least identify the cost that must be borne by the advanced economies responsible for overwhelmingly large shares of cumulative emissions and high per capita emissions. It was silent on how the burden should be shared between public and private entities, globally and nationally. It did not specify how much of the financing must be in the forms of equity, grants, concessional lending and commercial loans. And finally, it left wide open the institutions that should be responsible for mediating financial flows, especially at the global level.

These are among the many financing issues that the international community has been grappling with. The Intergovernmental Panel on Climate Change (IPCC) addressed the issue of financing in a dedicated chapter for the first time in 2014, in the report of Working Group III of its Fifth Assessment. That discussion flagged the absence of a clear definition and estimation of climate finance flows, which Chapter 15 of the report of Working Group III in the most recent Sixth Assessment (hereafter WGIII6AR) notes is ‘a difficulty that continues’ (IPCC, 2023). This is significant because this is the first time a finance chapter had been included since the 2015 Paris Agreement that called for aligning financial flows to climate goals. The discussion points to a serious deficiency; with the available imperfect data suggesting that, to meet assessed needs, yearly flows of climate finance would have to rise by 4 to 8 times in developing countries, and 2 to 5 times in developed countries. (Prasad et al. 2022)

In practice, much energy has been spent on persuading the governments of developed countries to deliver the 100 billion USD a year in climate finance by 2020 that they had promised as far back as 2009, at the 15th Conference of Parties (COP 15) held at Copenhagen. According to estimates from the OECD in 2020, the total climate finance provided and mobilized by developed countries to developing countries was 83.3 billion USD (Cormann, 2022). There are
claims that this ‘goal’ would be achieved, after much delay, in the current year, 2023. But for now, the Biennial Assessments of climate finance flows from the UNFCCC, and the IPCC’s Special Report on Global Warming, have placed the funds needed to contain global temperature rise at 1.7 trillion USD a year between 2020 and 2030. The agreement at Glasgow to launch a cumbersome process to discuss and arrive at a higher annual financing number, a ‘new collective quantified goal,’ has not helped hasten matters. Discussions at the international level to arrive at a ‘new collective quantified goal’ are proceeding at a slow pace.

Meanwhile, public financing is resulting in the accumulation of a limited kitty to support North-South financial transfers. According to the OECD, public climate finance increased from 38 billion USD, representing 72.5 per cent of the total in 2013, to 68.3 billion USD, accounting for almost 82 per cent of the total in 2020. But Oxfam had estimated that if only public finance is considered, and only grants and the grant equivalent of lending is taken into account, the figure for North-South transfers for climate finance falls to as low as 19–22.5 billion USD in 2017–18. Most recently, at the 5th October 2023 pledging conference for the second replenishment of the Green Climate Fund, the sums committed had reached only 9.3 billion USD from 24 countries. Especially when compared to the 10.3 billion USD that were pledged by 45 countries when the fund was created, and the 10 billion USD committed by 32 countries during the fist replenishment. Though more pledges may be forthcoming, the failure to mobilize even a nominally higher sum for the second replenishment by the time of the pledging conference is telling.

In what is clearly an attempt to divert attention from this abject failure of the rich countries to provide adequate financing, emphasis is being placed on attracting large volumes of private finance into the climate space. In the view of the authors of WGIII6AR, ‘a crucial priority is to expedite the operational definition of blended finance and promote the use of public guarantee instruments’ (Kreibiehl et al. 2022). This is because, ‘Private flows to accelerate the low-
carbon transition in developing countries would benefit enormously, by gaining clearer access to public international funds and support defined on a grant equivalent basis’ (Kreibiehl et al. 2022). However, the evidence on blended finance and public-private partnerships indicates that the consequence of such initiatives is that risks and losses are borne by the public sector, whereas profits accrue to the private sector.

Climate-related projects differ in terms of the net monetary returns or surpluses they generate—some offering average, above average or well above average returns; others offering less than average or miniscule monetary returns; and yet others offering no monetary returns and therefore involving the undertaking of expenditures with no financial quid pro quo. It is in the nature of private actors choosing to make expenditures for profit to fight shy of investing in projects that offer no or low returns, or of undertaking expenditures that increase costs with no financial returns. They would also be unwilling to invest in areas where, though there are prospects of reasonable profits, the ‘risk’ that those profits will not materialize is also substantial or high. Relying on the private sector to do the job is to court failure.

In sum, successful mobilization of resources to finance climate projects at scale must be based on drawing surpluses away from the private sector, and into public hands, establishing accountable institutions capable of allocating those resources, and ensuring that the charges imposed on users of that finance are such that they foreclose crucial mitigation and adaptation efforts. This necessarily requires enlarging the fiscal space available to developing countries through significant reforms in the international taxation regime. The articles in this report discuss these challenges across a wide range of contexts, both international and within India.

REFERENCES


SECTION I

In Focus:
Climate Finance
Climate Finance
The climate emergency is a global challenge that demands collective action from governments, businesses, and individuals. In recent years, global pressures of mitigating and adapting to the effects of climate change have compelled the Indian banking apparatus to at least begin to recognize their pivotal role in addressing this crisis and to align their operations with sustainable, environmentally responsible practices. While this transformation reflects a growing awareness of environmental issues, it ironically also underscores how far the Indian financial sector stands from effective and enforceable measures to respond to the emergency.

We were served a stark reminder of the indifference of financial institutions towards the impacts of their investments at the beginning of this year. The mountain town of Joshimath literally started sinking under the weight of highways, hydroelectric projects and tourism infrastructure. Thousands of locals witnessed cracks appear in their houses and rifts appeared on the road. As a phenomenon known as land subsidence unfolded at Joshimath, thousands of inhabitants were displaced. The locals gave the rallying cry of ‘NTPC Go Back’ against what they perceived as a consequence of irresponsible development of Tapovan-Vishnugad hydro power project run by National Thermal Power Corporation. Experts and scientists questioned the wisdom of developing massive hydropower projects in the unsupportive topography of the Himalayas, putting the project developer, NTPC and the state government in the dock. The financiers of the project remained comfortably hidden. As the government was compelled to order a temporary halt of the hydro project, there was no public statement from the financiers on whether their loans to the project would be put on hold in view of the ecological and social tragedy that was unfolding.

It is banks and financial institutions which finance business, construction, mining and all other sorts of small and big industrial activities often responsible for adversely impacting the environment. Thus, not only do banks have a responsibility towards the impacts of their investments, but they also play a key role in determining the direction of ‘development.’ Yet, so far, there are hardly any climate safeguards in banks’ lending mechanisms. Overall, the banks’ response is framed in terms of ensuring optimum profit from both green and brown investments. This has meant that instead of prioritizing the impact risk of their investments on the environment, banks have foregrounded financial risk.

It is in this context that Indian banks’ response to the climate crisis has evolved. With greater discussions on the climate and the environment, there has been an increasing flow of ‘guidelines’ from the central regulator, the Reserve Bank of India, and of global ‘commitments’ from governmental or financial institutions towards ensuring climate accountability among banks. While the banking landscape is still too far from a transparent, en-
forceable climate accountability mechanism, there is a gradual movement towards a recognition of the need to implement non-financial, i.e. environmental, social and climate accountability from banks. It is this uncertain movement that this chapter attempts to trace.

**INDIAN BANKS AND CLIMATE RESPONSE**

One of the very early global interventions on financial institutions was the Equator Principles (EP)—a voluntary set of guidelines for financial institutions launched in 2003, to minimize the environmental and social risks of financing large projects. The stated objective of the principles is, “Large infrastructure and industrial Projects can have adverse impacts on people and on the environment. The Equator Principles (EP) are intended to serve as a common baseline and risk management framework for financial institutions to identify, assess and manage environmental and social risks when financing Projects.” The EP also looks into climate risks caused directly and indirectly by the large projects. It started with 10 financial institutions who had adopted them. Currently, it has 100 members, only one of which is from India: IDBI first Bank (2023).

Since the 2000s, Indian banks have been actively lending to large scale projects. These include highly polluting sectors and industries like coal mining, thermal power projects, smelters, chemicals etc, roads, corridors, ports and other large infrastructure projects that are constructed on ecologically sensitive areas. But none of the Indian banks have adopted the Equator Principles, nor has there been any policy from the RBI insisting on assessing the impacts of the projects on the environment and climate change. Despite the adoption of safeguard policies as a standard procedure by most multilateral development agencies, Indian financial institutions refused to link non-financial accountability with their lending policies.

In a recent report (2022) by the Centre for Financial Accountability, they studied 140 coal thermal power projects above 1000MW, and mapped the financing for 132 plants. According to the report, highest number of Environmental Clearances were granted in 2010 (21), 2007 (20), 2009 and 2011 (14 each) and 2016 (11). The highest number of plants were commissioned in 2016 (20), 2013 (14), 2015 (12), 2012 (11) and 2019 (9). The highest number of plants commissioned was after the Paris Climate Agreement (2015). In late August, Indian banks had extended loans totaling 1.20 trillion rupees ($14.42 billion) to industries heavily reliant on carbon, such as petroleum, coal, and nuclear fuels, while they had lent 12.40 trillion rupees to sectors associated with infrastructure development.

The Reserve Bank of India (RBI) has taken initiative since 2007 by occasionally stressing on Environment, Social and Governance (ESG), but always falls considerably short of mandating concrete mechanisms of accountability. Banks and other financial institutions and regulators have kept themselves away from the discourse on accountability or their impact on the environment, even when these institutions were lending/funding projects that have negative environmental and social consequences. The first guideline that included climate change was issued in 2011, following the Human Rights Council endorsement of the resolution of Guiding Principles on Business and Human Rights (June 2011). In July 2011, the Ministry of Corporate Affairs brought out the National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business. Principle 6 of the guideline looks into issues of environment and climate change from the perspective of “do no harm”: a core tenet of the Guiding Principles.

Principle 6: Business should respect, protect, and make efforts to restore the environment

The principle recognizes that environmental responsibility is a prerequisite for sustainable economic growth and for the well being of society. The principle emphasises that environmental issues are interconnected at the local, regional and global levels which makes it imperative for businesses to address issues such
as global warming, biodiversity conservation and climate change in a comprehensive and systematic manner. The principle encourages businesses to understand and be accountable for direct and indirect environmental impacts of their operations, products and services and to strive to make them more environmentally friendly. The Principle urges businesses to follow the precautionary principle and not go ahead with a particular action if it is unsure of its adverse impacts. (Ministry of Corporate Affairs, 2011)

One can say that the Indian banks’ response to the climate crisis was effectively negligent.

This attitude appeared to change after the COVID-19 pandemic.

TOWARDS CLIMATE REFORMS

The RBI joined the Central Banks and Supervisors Network for Greening the Financial System (NGFS) as a Member on April 23, 2021, to benefit from the membership of NGFS by learning from and contributing to global efforts on Green Finance. In this regard, on the occasion of the 2021 United Nations Climate Change Conference (COP26), NGFS reiterated its willingness to contribute to the global response required to meet the objectives of the Paris Agreement, and, to that end, NGFS will expand and strengthen the collective efforts towards greening the financial system. Accordingly, the Reserve Bank of India, has published on 3rd November, 2021 its ‘Statement of Commitment to Support Greening India’s Financial System – NGFS’.

Survey on ESG, Report

Conducted by the Sustainable Finance Group (SFG) within the Department of Regulation at the RBI, the survey involved 16 private commercial banks, 12 public sector banks, and six foreign banks. Based on the survey findings, the SFG recommends enhancing the banks’ capacity and integrating climate-risk assessments into their governance framework. It also advocates for a larger portion of their lending portfolio to be directed towards green financing.

The survey reveals that very few banks include performance metrics related to environmental, social and governmental (ESG) criteria when evaluating their top executives. Most banks lack a dedicated department in their organizational structure to address ESG initiatives and sustainable finance. Additionally, they do not have a clear strategy for expanding their sustainable finance portfolio or for addressing climate-related risks.
In addition to addressing risks, the RBI survey and accompanying paper propose that both public and private sector banks should consider aligning their disclosures related to the climate with an internationally recognized framework. The central bank also suggests that commercial banks should commit to specific goals concerning green lending, primarily by directing investments toward renewable energy and reducing carbon emissions.

Currently, most banks do not enforce mandatory ESG commitments, and the criteria for each indicator are often ill-defined. In recent times, certain communities and segments of civil society have been advocating for banks to move beyond ESG and adopt a ‘safeguard regime.’ This regime would include compulsory assessment mechanisms, clear criteria and thresholds for project approval and evaluation, requirements for informed consent from potentially affected communities and a robust mechanism for addressing grievances.

The Sustainable Finance Group (SFG) and the RBI have traditionally played advisory roles in climate finance, with a focus on the nation’s development needs. However, this development model, often associated with large-scale infrastructure projects that generate substantial profits for a select few, fails to distribute opportunities and benefits equitably. Simultaneously, it ensures that the consequences of the climate crisis and environmental degradation disproportionately affect millions who lack the resources to mitigate these impacts.

**Framework on Green Finance**

The Reserve Bank of India earlier this year published its “Report On Currency and Finance 2022–23: Towards A Greener Cleaner India,” marking a significant effort by the central regulator to address the banking and finance sector’s responsibilities amid the climate crisis. This report follows various research and policy initiatives aimed at assessing and enhancing the banking sector’s capacity to tackle climate-related financial risks. It primarily focuses on three key areas where the central regulator envisions its role:

- Requiring banks to disclose climate-related risks.
- Mandating financial institutions to integrate environmental risk factors into their risk management processes.
- Establishing a green asset ratio (GAR), which sets a minimum threshold for financial institutions to allocate a portion of their assets to sustainable projects or economic activities.

However, the report falls short in several aspects. Firstly, it emphasizes green investments, but fails to address the need for banks to cease funding environmentally harmful projects and for scrutinizing existing brown projects more closely. Social and environmental impacts, including the loss of livelihood and habitats, deserve greater atten-
Indian Banks’ Response to Climate Crisis

Need for safeguards

The lack of adequate structures for people to hold companies and financial institutions accountable often results in unaddressed concerns. Introducing safeguard policies and accountability mechanisms could empower communities to prevent harmful projects and hold them accountable. This policy should involve community consultation and cover pre-project assessments, impact evaluations, consent, compensation, resettlement, periodic monitoring and grievance mechanisms to choose between protecting human rights and the climate or promoting business convenience.

There is a distinction between two types of ‘risk’—one related to financial investment and profitability and the other associated with social and environmental consequences. It is essential to have safeguards for both investment risk mitigation and impact risk mitigation. Banks, which fund various projects, are legally and ethically responsible for the non-financial (environmental and social) impacts of those projects, a global consensus. This responsibility entails assessing, reducing, compensating, and avoiding harmful impacts. From a fiscal standpoint, banks should take prudent investment paths to avoid legal complications and delays leading to loss and NPAs resulting from environmental violations or community protests. The difference lies in perspective: financial risk focuses on monetary benefit, while impact risk prioritizes evaluating and deciding projects based on their overall impact, even if legal compliance is maintained.

If the banking sector fails to understand this difference and limits its scope of mitigation to only financial risks, it is mistaking the forests for trees. A robust and holistic safeguard policy that keeps the ecology, people and impacts at its core will also in the long run be financially more sustainable.

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HYDROCOLONIALISM IN INDIA’S TRYST WITH THE TRANSITION

Manshi Asher

This article explores India’s pursuit of green growth and its controversial reliance on hydropower projects in the Himalayas. It raises concerns about the environmental and social impacts of these projects, despite the government’s push to categorize them as renewable energy sources. India’s continued dependence on coal is also emphasized.

On 23rd February 2023, the Prime Minister’s Office (PMO) issued a press release titled, ‘Amrit Kaal Budget accelerates the momentum for green growth’, accompanied by PM Modi’s live address in the first of a series of 12 post-budget webinars on ‘Green Growth’. He said, ‘This budget will play a key role in establishing India as a lead player in the global green energy market. That is why, today, I invite every stakeholder of the energy world to invest in India.’ ‘The potential of solar, wind and biogas in India is no less than any gold mine or oil field for our private sector’, he added.

It is now more than evident that for the Modi government, aceing the ‘Green growth’ game is priority. Modi’s tryst with the transition began in Paris in 2015 and it was in Glasgow that his government concocted the panchamrit (In Sanskrit, pancha, meaning ‘five’, and amrit, meaning ‘immortal’ or ‘nectar of the gods.’) announcing the target of increasing the country’s non-fossil energy capacity to 500 gigawatts by 2030 and reaching ‘net-zero’ by 2070. The Union government’s 2023 budget appears to be throwing its weight behind this. The parallel drawn between non-fossil fuel sources and a gold mine or oil fields, to lure ‘our private sector’ in the Prime Minister’s speech is revealing. Irrespective of the finite/infinite-ness of the source of energy involved, the intent of exploiting for big profit is explicit and all prevailing, operating well within the structures of the capitalist and imperialist fossil fuel based economy. Technocrats and investors are ‘the’ stakeholders in the green growth story. This is why some scholars are now referring to renewables as fossil fuel+ (Dunlap, 2021).

HOW GREEN IS YOUR ‘POWER’?

The global renewable energy transition strategy is predominantly about the establishment of new and more mega-infrastructures, continuing to occupy land, water and forests, dispossessioning rural and indigenous communities and thus reproducing the colonial dynamic of capitalism. So if ‘Green’ is now a prefix extended to ‘energy’ and ‘growth’, it may as well be safely extended to ‘land grab’ and ‘colonialism’ as well. Climate and environmental justice people’s movements and recent academic work from both the Global North and South continues to critically analyze and expose the power relations of domination and extraction that constitute ‘renewable energy colonialism’ comprising of massive—centralized and privately

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developed solar and wind energy parks and hydropower installations (Batel and Küpers, 2022).

Surprisingly or perhaps not, the Prime Minister’s post budget speech steered clear of mentioning hydropower projects in its ambitious renewable plans. After all, in recent months, hydropower development has received much needed flak in national and international media, for being one of the key contributors in triggering the unprecedented land subsidence of the ancient pilgrim town of Joshimath in Garhwal, Uttarakhand. The uproar came from all quarters and not just from the displaced residents who were forced to evacuate their collapsing homes rendered unsafe to inhabit, who continue to sit in protest. Within days of the disaster coming to light, Shankaracharya Jyotirmath petitioned the Supreme Court in the first week of January 2023. One of his prayers was to safeguard spiritual and religious places and stop the construction relating to the 520 MW Tapovan Vishnugad Hydro Electric Project. The petition also demanded a halt on all hydropower projects in the upper reaches of Uttarakhand’s river basins on the grounds of the havoc they wreaked for the people and ecology.

In late January, Swadeshi Jagran Manch—the economic wing of the Rashtriya Swayan Sewak Sangh—in a round table held in Delhi issued a statement raising questions on the NTPC hydropower project amongst other infrastructures that have destabilised the area. The demand was to declare the Himalayas an ‘eco-sensitive zone’. The omission of hydropower projects in the speech may have been a strategic move to stay out of the eye of the storm. The fact that around the same time the Cabinet gave a nod to the country’s largest hydropower project—3097 MW Etalin project—to be constructed in the Dibang Valley of Arunachal Pradesh makes this apparent. Further, substantial budgetary allocations were made to the key hydropower players, now also entering the solar and other renewables arena: National Hydropower Corporation (NHPC), National Thermal Power Corporation (NTPC) and the Sutlej Jan Vidyut Nigam Ltd. These public sector companies have also recently been declared as Renewable Energy Implementing Agencies (REIAs) by the Ministry of Power.

It is not just the global-energy-transition-led net zero targets, but also the geopolitical and diplomatic assertions that have ensured that hydropower development remains on the government’s priority for the Himalayas. With 79 per cent of the country’s identified hydropower development potential concentrated in the Himalayan region, a cascade of ‘Run of the River’ (ROR) dams have already been constructed in the upper reaches of Himachal, Uttarakhand, Jammu & Kashmir and Sikkim in the past two decades. As per official data, over 80 per cent of the hydropower potential is still to be utilized, which means that more dam construction is to follow.

ENGINEERED DISASTERS

By the end of last decade, the rivers of the Indus basin flowing through the states of Himachal and Jammu & Kashmir had over a 100 large dams (above 25 MW) in different stages of planning, construction and commissioning. Between the three states (Uttarakhand, Himachal Pradesh, J&K) that fall in the Ganga and Indus river basins, Himachal is leading with its installed capacity crossing 11000 MW. In Himachal, the Ravi, Beas and Sutlej rivers are chock-a-block with hydropower dams of varying capacities today. To understand the sheer scale of the construction we can look at the 320 kms long Sutlej river—which has the highest hydropower identified potential—with about 150 large, medium and small dams in different stages of planning, construction and commissioning. After all the dams are built, 22 per cent of the Sutlej river would be dammed and 72 per cent siphoned through tunnels.

The hydropower projects of capacity above 25 MW are particularly invasive on the mountain terrain characterised by large scale underground construction for tunnels and power houses. Heavy machinery (boomers) is deployed to break into the mountain, drilling holes (up to 2 to 3m) on the face of the already rugged slopes. High intensity explosives are inserted in the holes drilled to blast and rupture the earth and excavate, referred to as mucking or removing of mountain debris with loaders and dumpers. Millions of tons of muck and debris generated by this construction is dumped in forests, on grazing lands, farm lands and along the river sides. This chain of processes equivalent to mining or quarrying in a topography marked by high seismicity and complex geology of fractures and folds, remains unscrutinised in already fault and inadequate environment impact assessments of these 'green' projects. Cracks appearing in houses, farms and roads as well as seepages and disappearance of underground springs in villages located along the alignment of the project has been the most reported impact of ROR dams in the Himalaya. Despite documented evidence of these constructions setting off new landslides and activating existing ones, there continues to be denial of adequate 'scientific evidence' (Himdhara, 2019).

Slope excavation and deforestation for the dams, related roads, projects and transmission lines contribute to surface land use changes and further erosion. Apart from disturbing the sensitive and complex geology, tampering with local ecological systems and dependent livelihoods, when climatic events like sudden heavy rainfall, cloud bursts, flash floods occur in these destabilized areas, they turn into disasters claiming lives and damaging property (Asher and Bhandari, 2021; Huber, 2019). The starkest illustrations of this are the Uttarakhand tragedies of 2013 and then again in 2021, where the force of the flooding river carrying debris was multiplied by dams and muck, standing as obstructions in its path.

A 'Landslide Hazard Risk Assessment' study published by the Himachal government’s Disaster Management Authority found that 'a huge number of hydropower stations i.e. 67 are under threat of landslide hazard risk... and 10 mega hydropower stations are in the medium and high-risk landslide area.' A report of the National Disaster Management Authority on the Uttarakhand Tragedy published recently has flagged the need to look at alternatives to these projects in the high Himalayas (National Disaster Management Authority, Ministry of Home Affairs, 2022). In the long run, this kind of development is a colossal waste of resources—when year after year crores are lost in damage and maintenance of public infrastructure. Little wonder then, that while we see a rise in installed capacities of hydropower in states like Himachal, revenue generation from hydropower remains stagnant.

Substantially, as per the latest Parliamentary Committee report on Power Project Delays, as of November 2020, 24 of the 37 under construction hydro projects in the country were facing time and cost overruns of over Rs 30000 crores. With delays owing to ‘geological factors’, nine of the projects are in Himachal. In the last two decades, barring one, no project in Himachal was commissioned without delays and cost overruns. On one hand, the losses and long gestation periods are attributed to ‘geological surprises’, also helpful in feigning ‘strategic ignorance’ and escaping culpability; on the other, delays are also blamed on ‘local protests and opposition’ blocking project work (Gergan, 2020; Vaishnava and Baka, 2022).

That across the Himalayan region—from the Dibang valley in the east to the Sutlej in the west—indigenous communities have put up resistance, on ground and in courts, to hydropower dams is nothing but an indication of the environmental conflict around these infrastructures. In Himachal, close 70 per cent of all forest land diverted since 1980 has been for hydropower projects and transmission lines. In mountain states, a large part of the geographical area is classified as forest land—under the jurisdiction of the forest department. However, it is the local populations who depend on these lands—whether forests or pastures—for timber, fuel, fodder, leaf litter, grazing and other produce. While private land acquired directly for hydropower projects and re-
lated infrastructure is miniscule in most cases, it is the forest land diverted that has emerged as the main source of conflict as impacted communities’ forest use rights are compromised. One of the key reasons for the non-implementation of legislations like the Forest Rights Act (FRA), 2006, in states like Himachal Pradesh has been to skirt the ‘gram sabha’ consent under FRA, seen as a hurdle to ‘development’ by the State. Successive governments, both at the centre and the state, have thus diluted procedures for forest and environment clearance for these projects. For instance, the classification of transmission lines as ‘linear projects’ in 2013 led to exemption from requiring the ‘gram sabha’ consent as a mandatory clause. The transmission line projects, which actually involve large scale tree felling, also do not come under the purview of the Environment Impact Assessment Notification, 1994. At the end of the day, the hydropower development in the Himalaya has been driven by externalizing costs on affected communities and the ecology, apart from the taxpayers and consumers paying for the expensive power.

DECONSTRUCTING THE ‘RENEWABLE’ TAG

Comparatively cheaper coal power and also the heavily subsidised solar sector, further added to the unviability of hydropower. The withdrawal of the private sector—who had made a beeline for these projects in the early 2000s—is another indicator of the low that the sector was facing. In 2016–17 close to 40 hydropower projects had to be bailed out of bad loans worth Rs 16,000 crores. The hydropower sector’s contribution to the country’s total electricity production has less than halved from 25 per cent to 11.5 per cent in the last decade and a half. The hollowness of the green talk is also exposed then by the fact that it is coal that continues to reign India’s power sector, its presence growing more strongly in India than anywhere else in the world (Roy and Schaffartzik, 2021).

Despite the flailing hydro-economics, the review report of the Parliamentary Standing Committee on energy tabled in the Lok Sabha in early 2019, presented the Himachal Pradesh hydropower model as glorious to be followed by other states with not a mention of the environmental impacts and disaster risks associated with these projects in the Himalayan landscape. The key recommendation of the committee was to recognise hydropower projects with a capacity of more than 25 MW as renewable, which was earlier only granted to smaller projects making them eligible for financial assistance and loans at lower interest rates. The report states,

All hydro projects are traditionally renewable in nature. Since Hydro Power projects upto the capacity of 25 MW stands allocated to The Ministry of New and Renewable Energy, only these are categorized as renewable energy sources. Thus, the categorisation was on the basis of allocation of work and not on the renewable nature of source. One of the measures formulated by MoP in the proposal for ‘Revival of hydro power sector’ includes declaring all hydro projects as renewable irrespective of their size and capacity (Ministry of Power, 2019).

This proposal was approved in March 2019 when the power ministry issued an Office Memorandum with concrete measures for promoting the sector. Following this renewable Power Purchase Obligations (PPOs) could be made applicable to hydropower as well. Hydropower projects, however, had not received the same waiver of interstate transmission fees offered to solar and wind energy projects. This year the government decided to extend the waiver of Inter State Transmission System (ISTS) charges on the transmission of power from new hydropower projects, ‘to provide a level playing field for hydro projects.’ But the biggest advantage of the ‘renewable’ label on large hydropower was that it helped India inch further to its 2030 goal of 500 GW. In 2021, the country had about 62 GW of solar, 42 GW of wind, 10 GW of biomass, 5 GW of small hydro, 7 GW of nuclear power in its non-fossil based installed power capacity. Adding 47 GW of the newly green tagged large hydro the ‘renewable’ capacity brought it to 173 GW.
In the United States, the third largest hydropower producer in the world, the state of California for instance, had set a limit on the inclusion of hydropower in its renewable utilities, with only those producing 30 MW or less included. In 2022, the California State Assembly proposed allowing utilities to count large hydropower facilities as well. Notwithstanding, the United States has also witnessed decommissioning of dams given their environmental costs. In India the public discourse on large dams has been socially and environmentally fraught since the late 1980s. Mass displacement and submergence of farms and forests, especially of the indigenous people, in rural areas of the country by the reservoir based dams had received global, not just national attention. The methane turned carbon emissions from decomposing vegetation and organic matter in dam reservoirs, became an issue of concern in the context of the climate crisis.

It was the opening up of the power sector to private investors and global finance through the clean development mechanism that attempted to give a renewed impetus to the sector that shifted location to the Himalayas equipped with the ROR technology. International financial institutions through their clean energy missions promoted the idea that these projects, which used the fast flow of the Himalayan rivers in high gradient zones, were ecologically and socially friendly, with minimum displacement compared to the reservoir dams. But as we witness warming in the ‘water towers’ in the form of reducing precipitation, receding glaciers and depleting snow cover, the very ‘renewability’ of water itself is becoming questionable.

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The article warns of an impending climate disaster due to unfair carbon emissions distribution. It examines two prevalent approaches within progressive political circles, one emphasizing mitigation for all and the other advocating for the right of the South to emit its fair share. It critiques both approaches for overlooking the twin issues of climate crisis and injustice. It suggests the North should offset its emissions excess. A key suggestion is an international carbon fund, ensuring a decent living for the Global South, creating a more equitable and sustainable future.

It will not be an exaggeration to say that we, as humankind, are on the brink of a climate disaster. What makes the situation even more dire is that time is running out. Image 1 below tells us how much of the carbon space we have used up already (the dark portion in the chart on the left) and how much are we left with before we hit the two temperature targets of 1.5°C and 2°C (the lighter portions respectively in the two bars). The chart on the right tells us the speed with which we are moving towards these targets. It is startling to know that what we have emitted in almost two centuries (1800–1992) is the same amount of carbon we have emitted in the last three decades alone (1992–2021). With such a base effect in play, we will hit the targets in a much smaller span of time. If we do not act now, the sinking ship will be in autopilot mode, especially with climate tipping points in play. The question is how do we act? This note is an attempt to show such a path from the perspective of finance.

THE TWIN PROBLEM OF CLIMATE CRISIS AND INJUSTICE

To understand the distributional issues of climate injustice, we need to first look at what a fair share would have been. Assuming all individuals have...
an equal right to the environment, we can divide the total carbon space (for either of the targets) by the current global population. This would give us a fair per capita share. Since negotiations happen at the level of nation states, we could find the fair share of each country and judge their cumulative emissions against that. If we do such an exercise, we find that the Global North has usurped four times its due share in the total carbon space (even if we take the more liberal target of 2°C), and conversely, the Global South (inclusive of China) is far from its fair share. What makes matters worse in this injustice is that the vulnerability of the South is many times higher than that of the North (the adjacent chart). So, there is a double injustice in this case. On the one hand, the Global South has not got its fair share of the carbon budget and on the other it will suffer more.

This unfair distribution has been responded to, within progressive political formations, in two different manners. One, endorsed by the Northern Left, since we have no time to lose, the fight against climate crisis should be given a privilege over everything else and all the countries, even though with differentiated responsibilities, should contribute to mitigation. Two, purely from a fairness angle, the Southern Left argues that the Global South should be allowed to emit its fair share and the responsibility of mitigation should not fall upon them. Since most of the Southern countries are either underdeveloped or are at a developing stage, there are far worthier claimants, such as welfare measures, to the limited fiscal space that these States may have. Both these positions, in our opinion, are incorrect, the first one because it privileges the climate crisis over injustice and the second because it does the reverse. The million-dollar question is: can the twin issues of climate injustice and crisis be fought together? We believe they can—the roadmap of which we present below.

**THE Z-FACTOR OF THE CLIMATE CRISIS**

Let’s look at what these two positions—the current format of differentiated responsibilities and the South’s right to burn—mean effectively for this twin problem. In the image below, we do a simple exercise. We plot a tentative forecast of emissions from the two regions (North in red and South in blue) where the North decarbonizes rapidly and reaches a net zero position while for the South emissions rise at first and then gradually decline to net zero at a later point. X represents the fair share of emissions of the South; Y refers to the net positive emissions North will make till it reaches its net zero target; Z is the factor by which the North would have overshot their fair share in total before they reach net zero. Since Y is over and above the overshoot that the North has already emitted, it is obvious that the sum of these X+Y will exceed the carbon budgets (Image 1) dramatically.

The current pledges of differentiated responsibilities (with merely different time targets of achieving net zero) would mean that the South will be unable to emit the Z-factor (i.e. emit by a factor X-Z) because only then can the total emissions stay under the budget. This is offloading the entire responsibility of the North onto the South! While addressing the crisis, it perpetuates injustice. The ‘right to burn’ position, on the other hand, means the total emissions after the global economy has achieved net zero would be X+Y, thereby exceeding the climate budget by a factor of Z! It addresses

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climate injustice while embracing climate disaster. We are not sure those taking either of these political positions have an answer to the problem they choose to ignore. So, the progressives of the North may not be able to answer how their proposal really addresses the issue of global injustice, just as the Left in the South will not be able to answer how the net negative emissions will take place in the North.

Before we proceed on to our proposal of climate finance, we would like to present the mainstream view on climate finance in the context of the Z-factor.

**WHY CARBON MARKETS HAVEN’T AND WON’T WORK**

Mainstream economics often turns to markets to solve a problem and climate finance is no different. How do carbon markets work or at least how are they supposed to work in principle? Keeping in mind the overall emissions target, a carbon cap is set by an umpire overseeing this market. This cap, in the form of permits, is then distributed, based on some principle, among the participants. Those who need to emit more than their share will have to buy from those who will emit less. Depending on the balance of the buyers and sellers of carbon credits, this ‘cap and trade’ mechanism determines the price of each permit. If there are more permits to be bought than available, the price of permit is bid up and it makes sense for those on the margin to switch from a buyer to a seller. This process of bidding continues till the permits to be sold and bought match each other. Since the cap is fixed, emissions cannot exceed that so that takes care of the climate crisis angle. As for the inequality aspect, those in surplus of permits are adequately compensated for staying below the emission limits while those crossing the line pay for doing so. Both the buyers and sellers of this permit are incentivized through the market forces to decarbonize their respective operations over time. For the buyers, it makes sense to keep the demand for such permits to a minimum and for the sellers to stay as below the limit as possible. By decreasing the caps every
year, which increases the price of the permits, the
governing institution can keep bringing the emis-
sions down. This process can be visualized at the
level of a country with State playing the umpire
or at the international level with a supranational
body playing the umpire, of which the European
Trading System is a prime example. Isn’t this solv-
ing the Z-factor effectively?

The problem is markets are hardly ever pow-
er-neutral. The implicit assumption in ‘cap and
trade’ is that the price of permits is determined
by demand and supply in an ‘objective’ manner
but what if the buyers dominate the sellers (as is
often the case in carbon markets) and the prices
are way lower than what a decarbonization plan
requires. This neither incentivizes the sellers nor
the buyers to invest in decarbonization techniques.
So, even though the emissions may be limited by
the current cap in a particular period, the possibil-
ity of decreasing the carbon caps subsequently gets
limited. The only way increasing decarbonization
in such a situation can take place is by adversely
affecting the level of activity across the board, a
case similar to Degrowth. Clearly, such a strategy
of limiting economic growth would not be an ac-
ceptable solution to those who believe in the om-
niscience of the market.

ADDRESSING THE Z-FACTOR
THROUGH CLIMATE FINANCE

Can the Z-factor be addressed in a more feasible
way? The only possibility, which addresses this
twin problem of climate crisis and injustice, is the
North bearing the entire burden of the Z-factor in
the process of achieving global net zero. A simple
arithmetical solution is if the North could have
net-negative emissions to the extent that cancels
their overshoot (the Z-factor), the South could
emit its fair share without jeopardizing the cli-
mate. That would have solved the twin problems
of climate crisis and injustice at one go but unfor-
unately such a path of net negative emissions in
the Global North at an exponential scale within a
short span of time is not possible, technically or
otherwise. Natural sinks or even Carbon Capture
and Storage (CCS) can only absorb so much of
the carbon emitted. Can there be another way of
making the North responsible for absorption of
the Z-factor?

Absorption of the Z-factor can be done
through two routes—control of emissions in the
South and greater carbon removal globally—
both of which need to be financed, in terms of
technology and monetary capital, by the North.
This way the emissions from the South would ef-
fectively be X-Z but at no cost, either financially
or in terms of welfare trade-offs, to the South. We
would have met the carbon target, while ensuring
equity.

If ‘c’ is the per unit cost of decarbonization,
we know the total cost of decarbonization of the
Z-factor would be cZ. Since the cost of global
decarbonization has to be primarily borne by the
North it is in their interest to keep it low. One of
the critical components of ‘c’ is the cost of creating
blueprints of a technology as well as maintaining
control over it through the international patents
regime. If the patents on green technology are
done away with, ‘c’ would come down dramati-
cally for all, which is in the self-interest of these
nations. The logistics of contribution and distri-
bution of this cost could be managed by creating
an International Carbon Fund (ICF) where the
deficit nations pay and the surplus nations draw to
decarbonize their respective economies.

But Global North is not one entity, neither is
the Global South one. How is this ICF distributed
across nations? First the deficit nations. Depend-
ing on its current population, deficit nation A has
a fair share, say ‘d’, in the global carbon budget.
It has also emitted a certain amount of carbon ‘e’
and will emit more ‘m’ till it reaches its net zero
target. With ‘c’ as the per unit cost of decarbon-
ization, nation A’s contribution to the ICF would
accordingly be ‘c(e+m-d)’. Higher their past emis-
sions ‘e’, greater will have to be their contribution
to the kitty. Such a funding mechanism addresses
another problem. It is in the interest of every defi-
cit nation to achieve decarbonization faster since it
helps keep ‘m’ low. Each deficit nation has its own
On the side of the surplus nations in the South, a decarbonization quota can be fixed for each country depending on their size. A larger and a relatively more affluent country within the Global South, like China or India, has a higher room for decarbonization, so allocation of funds would have to be higher for such countries. Some such broad principles to arrive at the national decarbonization targets can be devised and funds allocated accordingly.

To be sure, this solution may also not find many takers, especially among the deficit nations. Currently the South seems to be arguing in favor of the right to burn, which we believe is counterproductive. Arguing for a right to burn is acting like Kali-dasa who was cutting the same branch he was sitting on. What we need to assert, instead, is a right to have a decent living for all the citizens of the South, which, if achieved through greener pathways, is a better strategy. So, instead of negotiating whether to ‘phase out’ or ‘phase down’ coal, the Global South should collectively negotiate with the North to fund the decarbonization of the South even as it grows to achieve a decent living for all its citizens. That, in our view, will be a genuinely progressive agenda for its own people and for the world at large.

'\( e+m-d \)', the total of which adds up to \( Z \), so the total contribution would add up to \( cZ \).
GLOBAL PLAYERS, MONEY AND UNDERSTANDING THE MECHANISMS INVOLVED IN CLIMATE FINANCE SINCE THE PARIS AGREEMENT

Shantanu Srivastava

This article examines climate finance since the Paris Agreement, with a focus on India. It highlights the shortfall in climate finance, growing importance of sustainable finance, and the need for substantial capital to facilitate India's energy transition. The analysis sheds light on investment trends in clean energy technologies.

The world today is at a tipping point. Climate change is one of the biggest challenges of our time. As the world grapples with the far-reaching consequences of climate change on every aspect of human life, a concerted effort to decarbonize the global economy has gained momentum. A vital tool in this decarbonization effort is transitioning to low-carbon energy sources, such as renewable energy. The transition requires monumental amounts of capital globally, with the developing world needing the most.

This paper analyzes the current global flow of climate finance into key clean energy technologies, focusing on how this money is moving into India. While domestic sources of capital, such as banks and domestic bond markets, are also available, this paper focuses only on offshore capital flows. It then delves deeper into the growing market for sustainable finance and its potential to help India's energy transition efforts.

PARIS AGREEMENT AND THE QUANTUM OF CLIMATE FINANCE MOBILIZED

A breakthrough moment in greater worldwide cooperation on energy transition and climate finance flow to the global south was the Paris Agreement. For the first time, 196 countries established and adopted a legally binding international treaty on climate change (UNFCCC, n.d.). The bedrock of the agreement was a framework for financial, technical and capacity-building support to those countries that needed it.

The developed world has fallen well short of this commitment. Donor countries will likely achieve the target three years late, largely because of significant ambiguities (OECD, 2021). For example, there is no clear definition of what and how to account for the goal. Further, a formal deal on what each donor country should pay is also missing.

For financial needs, developed countries were supposed to take the lead in aiding the developing world. The background for this commitment was the meeting of the United Nations’ climate change decision-making body, the Conference of the Parties (COP), in Copenhagen in 2009 (UNFCCC, 2009). The developed world had committed to jointly mobilize USD 100 billion annually in climate finance by 2020. The funds were to help developing countries reduce greenhouse gas (GHG) emissions and rapidly adapt to the rising risks of climate change. The commitment, reiterated and extended till 2025 in 2015 at COP21, was a central element of the grand bargain core to the Paris Agreement.

The developed world has fallen well short of this commitment. Donor countries will likely achieve the target three years late, largely because of significant ambiguities (OECD, 2021). For example, there is no clear definition of what and how to account for the goal. Further, a formal deal on what each donor country should pay is also missing.
CAPITAL INVESTED IN ENERGY TRANSITION

The need for climate action has never felt more pressing than today. Figure 2 lists the investments made in key energy transition technologies globally.

Global energy transition efforts, which started initially with shunning fossil-fuel-powered energy sources in favour of cleaner options like solar and wind, have now entered the next phase. Electric mobility is growing rapidly, replacing fossil-fuel-driven mobility solutions. Additionally, as nascent technologies, such as green hydrogen, find uses in industries as varied as aviation, chemicals and steel, capital keeps pouring into developing them further. Similarly, storage solutions are becoming critical as electric vehicles enter the mainstream and renewable energy finds a fix for its intermittent supply.

According to the Organisation for Economic Cooperation and Development (OECD), the world needs around USD 6.9 trillion of infrastructure investment each year till 2030 to meet the Paris Agreement’s goals (OECD, 2019). Moreover, OECD also estimates that annual investments in clean energy and energy efficiency need to increase 5x by 2050 to reach the goal of net zero by 2050. However, other estimates are much more aggressive. For example, the Glasgow Financial Alliance for Net Zero (GFANZ) estimates the annual investment requirement is USD 125 trillion by 2050 (gfanzero, n.d.). On the other hand, McKinsey, taking the Network for Greening the Financial System’s (NGFSs) net zero by 2050 scenario, puts the figure closer to USD 275 trillion (Krishnan et al, 2022).

Going forward, the developing world will need a large part of the climate finance, given that these countries will fuel the world economic growth in the coming decades. However, developing countries hold USD 75 trillion in assets under management out of the total global financial assets of USD 379 trillion, or less than 20 per cent, as of October 2020 (OECD, 2021). Clearly, there is an uneven distribution of global financial assets. Therefore, a large part of the developing world’s climate finance must come from developed nations.

GLOBAL SUSTAINABLE FINANCE MARKET FOR FULFILLING THE CAPITAL NEEDS OF DEVELOPING ECONOMIES

The USD 100 billion target of climate finance by the developed world, even if achieved, is minuscule compared to the quantum of capital required by the developing economies. The world needs much more money from private capital sources, which currently hold a large majority of financial wealth. Most of the biggest global investors have started adopting environment, social and governance (ESG) investing principles. Hence, the booming market for sustainable or ESG finance is one avenue that holds promise to be a significant driving force in fulfilling the developing world’s capital requirement.
Climate Finance Since the Paris Agreement

Pension funds and insurers have invested in clean energy technologies. Both debt and equity have found their way into established and developing clean energy technologies. Renewable energy generation has been the biggest beneficiary of ESG capital to date. This has to do with the sector’s maturity compared to other energy transition technologies and its widespread adoption across the globe.

CONCENTRATION OF SUSTAINABLE FINANCE MARKET

While the boom in sustainable finance markets is a big positive for global energy transition efforts, most of this capital today is invested in developed world companies and assets. Europe dominates the ESG finance market, with 46 per cent of the total global issuances coming from the region in 2021 (Lev, 2021). This is primarily because of the regulatory environment in the region and a large majority of ESG-aligned investors domiciled in Europe.

A significant concern among ESG investors while investing in developing countries is the risk of greenwashing, in other words mislabelling assets or funds as green. Even as the developing world has made major strides in transforming the regulatory environment to ward off greenwashing risks...
and quickly adopted clean energy technologies, the current investment flows are limited.

**CAPITAL FROM MULTILATERAL DEVELOPMENT BANKS**

Another sizable and often critical climate finance source is multilateral development banks (MDBs), especially for technologies in sectors where private capital would not invest, either due to nascent stage of growth or low returns.

In total, eight of the biggest MDBs worldwide committed USD 66 billion for climate finance in 2020, the last reported year, with USD 38 billion committed to low-income and middle-income economies (EBRD, 2021).

Europe received the lion’s share of this capital (~46 per cent). Close to USD 28 billion, or 42 per cent of the total finance, came from the European Investment Bank (EIB), which could explain why most of the capital found its way to European countries (EBRD, 2021).

**CLEAN ENERGY INVESTMENTS IN INDIA**

India is among the fastest-growing large economies globally. The country is aware of the twin and often conflicting challenges of managing this growth in a climate-resilient manner. The country’s past renewable energy trajectory and future goals are a testament to its awareness.

The Indian government has rolled out several policies and reforms to facilitate the growth of all clean energy pockets in the country. This has helped expand the renewable energy sector and is now facilitating investments in other technologies, such as energy storage, green hydrogen, energy efficiency and electric mobility.

Figure 3 illustrates the investment (debt and equity) made in clean energy technologies in India since the Paris Agreement. Most of this investment has been in renewable energy (USD 11.3 billion in 2021), while green shoots have emerged in other technologies over the last couple of years.

**SUSTAINABLE DEBT MOBILIZED BY INDIAN COMPANIES**

Indian clean energy companies, both state owned and private, have mobilized finance from across the globe, tapping into some of the most prominent international financial institutions and institutional investors.

Debt has come from both loans and bonds. While international banks have provided debt through conventional and green loans, the global ESG-aligned investors have been a significant con-
needs, the flows have been minuscule compared to global ESG debt issuances.

EQUITY FLOWS IN INDIAN RENEWABLE ENERGY COMPANIES AND ASSETS

On the equity side, India has seen several significant deals, mostly in the renewable energy sector. Global investors have also found it easier to invest in equity of clean energy companies compared to debt.

Private equity funds, such as Goldman Sachs, KKR, Global Infrastructure Partners and Actis, have actively invested primary capital in Indian renewable assets since the early part of the last decade.

Long-term patient capital, such as pension funds, insurers and sovereign wealth funds, have also invested heavily in Indian renewable energy infrastructure. Canada Pension Plan Investment Board (CPPIB) and Caisse de dépôt et placement du Québec (CDPQ), two of Canada’s largest pension funds, own equity stakes in top-rung renewable energy companies in India. Similarly, Abu Dhabi Investment Authority (ADIA) is a major investor in ReNew Power, while Singapore’s GIC is a majority shareholder in Greenko Energy. Lastly, project development and investment com-

Figure 4: Sustainable Debt Issued in India (USD billion).

Source: BloombergNEF.
mitments have come from many global oil & gas majors looking to deploy billions to achieve their own net zero goals (Buckley and Trivedi, 2021).

**INVESTMENTS IN TECHNOLOGIES BESIDES RENEWABLE ENERGY**

While renewable energy generation attracted the majority of climate finance flows in India during the last decade, investments in other sectors are also picking pace. However, most of these technologies are still in a rapid development phase and haven’t achieved commercial viability yet. Hence, a majority of the capital is through the promoters’ balance sheet as risk capital, while debt financing is largely unavailable.

In energy storage, companies such as JSW Energy (2023) and Greenko (Kumar, 2020) are investing in pumped hydro storage (PHS) and developing several PHS plants to provide on-demand round-the-clock (RTC) green energy. In addition, ReNew Power (ReNew Energy Global PLC, 2022) and Tata Power are investing in battery energy storage system (BESS) technology to participate in future RTC and hybrid renewable energy tenders in the country.

Electric mobility is another key priority sector for the Indian government. According to BNEF, India-based electric vehicle firms raised USD 636 million from venture capital, private equity investors, and commercial banks in 2021, a sharp rise from USD 100 million in 2020.

In green hydrogen, most local companies are setting up partnerships and joint ventures with foreign companies for their expertise in the technology. India is betting big on the still nascent technology, with conglomerates such as Reliance Industries Limited (RIL) and Adani Enterprises pledging large sums of money to expand their presence in the technology rapidly. RIL has been active both on the green hydrogen and battery storage front. The company plans to build a 2.5 gigawatts (GW) electrolyser manufacturing capacity to produce green hydrogen (FE Bureau, 2021). RIL has also invested in battery technology provider Ambri in the US and acquired Faradion in the UK (ET Bureau, 2022). Adani Group recently announced plans to invest USD 50 billion in developing a green hydrogen production facility along with the French oil & gas major Total Energies (Laskar, 2022).

**CLIMATE FINANCE BY MDBS MOBILIZED TO INDIA**

Climate finance from MDBs channelled to India has been limited in scope and size. South Asia, where India is grouped, received 11 per cent of the total proceeds from the top eight MDBs in 2020 (EBRD, 2021).

India-focused MDBs, such as Asian Development Bank (ADB) and Asian Infrastructure Investment Bank (AIIB), have contributed -10 per cent of the total climate flows or USD 6.5 billion. This may be a primary reason for India’s low share in total flows.

**INDIA’S REQUIREMENT OF CLIMATE FINANCE**

India’s clean energy market has grown rapidly with investments from some of the biggest global investors over the last decade. Still, the investments...
India has been trying to tackle these problems through regulatory reforms such as mandatory ESG reporting regulations. It has also been working towards regulating ESG ratings and data products and the proposed green taxonomy.

Hence, as Indian companies mainstream ESG considerations in their business strategies, disclosures improve, and regulations tighten, the sustainable finance market should grow much faster. This should lead to greater provision of climate finance for the country to stay on its energy transition path.

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UNPACKING CLIMATE EXPENDITURE IN UNION AND STATE BUDGETS

Shivika Solanki & Rini Dutt
Reviewed by Srinivas Krishnaswamy

In November 2022, India updated its Nationally Determined Contributions (NDCs) and submitted a Long-Term Low Emission Development Strategy at COP 27. This article assesses climate expenditure in Union and State budgets, emphasizing the need for increased funding to meet India’s climate goals and the importance of budgeting at national and sub-national levels.

At the meeting of the 27th Conference of Parties (COP 27) of the United Nations Framework Convention to Climate Change (UNFCCC), held in November 2022, India submitted its Long-Term Low Emission Development Strategy, as well as reiterated its updated Nationally Determined Contributions (NDCs), which was first announced by the Prime Minister at the 26th Conference of Parties of the UNFCCC in November 2021. The updated NDCs include achieving about 50 per cent cumulative electric power installed by 2030 and reducing Emissions Intensity of its GDP by 45 per cent by 2030 from the 2005 levels, besides other targets. This update to India's NDC is a step forward towards our long-term goal of reaching net-zero by 2070. In addition to the announced targets, there are several initiatives in the climate space that the Government of India has announced. These include:

- Green Hydrogen Policy to meet the production target of 5 million tonnes of green hydrogen by 2030.
- The FAME scheme to rapidly scale-up electric mobility adoption by giving purchase discounts across several vehicle segments, reduced road taxes, and incentives for scrapping and retrofitting to encourage achieving the goal of 30 per cent Electric Vehicles (EVs) by 2030.

Furthermore, multiple initiatives have been taken by various state governments at the sub-national level. These include development of state action plans on climate change, solar and Electric Vehicles (EV) policies, smart city action plans, announcement of net-zero goals, development of climate smart districts and villages in Uttar Pradesh and Tamil Nadu, and climate budget statements in Odisha among others.

In addition to the above, climate adaptation and disaster risk reduction are areas that need to be addressed on a war footing with relatively large financial allocations. In the recent past, India has faced several natural disasters, many of which were climate-induced. The intensity and frequency of these disasters has also increased. The initiatives to address both climate adaptation and mitigation, either already announced or those that need to be developed, require a large amount of financial and budgetary outlay. For example, the National Standing Committee on Energy noted in its February 2022 report on ‘Financial Constraints in Renewable Energy Sector’ that there is a huge gap between the required and actual investment for Renewable Energy (RE) capacity addition. Against the required annual investment of Rs 1.5–2 lakh crore, the actual annual investment in the last few years was Rs 75,000 crore.

WHY BUDGETS?

In the backdrop of the above, climate finance is an important and critical enabler of climate ac-
tion, which has been recognized by India. Some climate initiatives in India may be met through a combination of private investments and domestic and international funds flowing through various instruments (debt, equity, bonds, technical, etc.). However, there is a need for an appropriate policy framework with budgetary allocation to ensure seamless financial flows at all levels of governance.

It should also be noted that international and private finance mobilization is yet to reach its full potential, which is necessary to meet India’s climate targets. In such a scenario, public budgetary finance can be essential in leveraging private finance for climate action by de-risking investments in climate-relevant sectors by providing viability gap funding. At the Union level and in most states, there are no separate climate budget statements, and fiscal allocations for climate interventions are dispersed over the budgets of various line ministries.

In this chapter, we have reviewed 48 climate-relevant interventions of the Union Budget 2022–23, spanning nine ministries of the Union Government. These 48 interventions were selected based on the priority sectors recognized by the GoI in its submission to the UNFCCC. This review is not entirely exhaustive, and there may be other ministries with climate-relevant interventions which have not been considered here. Based on this analysis, the climate budget (of the nine ministries) totaled to Rs 2,83,782 crore, which constituted 7.19 per cent of the total budget and 1.4 per cent of the GDP for the year 2021–22. Notably, some adaptation-relevant schemes are not entirely meant for adaptation and yield adaptation as a co-benefit. However, in this analysis, it was assumed the entire allocations of such schemes were adaptation relevant, since teasing out climate-relevant allocations out of the total scheme allocation requires a complex and nuanced exercise beyond the scope of this chapter. Therefore, the exercise has yielded an approximation of climate-relevant allocations. The second section of this paper discusses the Odisha climate budget statement and the significance of the sub-national climate budget.

ANALYSIS OF UNION BUDGET 2022–23 FROM A CLIMATE LENS

1. The key interventions of The Ministry of New and Renewable Energy are Green Energy Corridor, National Hydrogen Mission, PM KUSUM Yojana, and various solar power interventions among others. The Ministry received an allocation of Rs 6,900.68 crore in 2022–23 (BE), lower than 2021–22 (RE); however, 161 per cent higher than 2020–21 (A). The allocation for the fiscal year 2022–23 was 0.04 per cent of the GDP and 0.17 per cent of the total budget. See Figure 1 for trends in allocations to various schemes under the Ministry. Given the scale of investments required to achieve the renewable energy targets of India, this allocation needs to be scaled up.

○ Green Energy Corridor, an essential intervention for increasing renewables in our energy mix, received an allocation of Rs 300 crore after consistent underutilization of the budget at Rs 150 crore (RE) in FY 2021–22 and Rs 160 crores (A) in FY 2020–21.

○ The provision for the National Green Hydrogen Mission was made for the first time, which is Rs 0.01 crores in 2022–23 (BE).

2. Under The Ministry of Power,

○ The Bureau of Energy Efficiency (BEE) was allocated Rs 150 crore (BE) in the fiscal year 2022–23, Rs 117.82 crore (RE) in 2021–22 and Rs 116.82 crore (A) in the year before that. The parity between BE and Actuals and BE and RE indicates the ministry’s optimal planning and fund utilization.

○ The National Smart Grids Mission received Rs 16.07 crore (A) in FY 2020–21, Rs 28.4 crore (RE) in FY 2021–22 and Rs 35.73 crore (BE) in FY 2022–23. While the allocation for 2022–23 was a definite increase from the Revised Estimates and Actuals of

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1 A = Actuals, RE = Revised estimates, BE = Budget estimates

30 State of Finance in India Report 2022–2023
The allocations for adaptation must be increased given India’s vulnerability to climate change.

○ The National Afforestation Program (NAP) and the Green India Mission (GIM) have been merged. Accordingly, the financial allocation for both schemes was provided under one budgetary head to augment the overall greening efforts. The budget allocation for the merged system increased from Rs 158 crore (A) in the year 2020–21 to Rs 220 crore (RE) in 2021–22 and to Rs 317.50 crore (BE) in 2022–23. A consistent increase in the allocations was observed. There is, however, a need to further increase allocations to achieve the forestry-related objectives as stated in the NDCs.

3. The Ministry of Environment, Forest and Climate Change received Rs 3,030 crores (BE) in 2022–23. The allocation for the previous year was Rs 2,520 crore (RE), and for the year 2020–21 was Rs 1,967 crore (A). The 2022–23 allocation towards this ministry in FY 2022–23 constituted 0.02 per cent of the GDP and 0.07 per cent of the budget (See Figure 2). The budget needs to be scaled up to meet the varied targets under the Ministry.

○ The National Coastal Mission received a budget of Rs 195 crore in 2022–23 (BE), a 93 per cent scale-up from Rs 100.9 crore (RE) in 2021–22 and a 186 per cent increase from the Actuals of 2020–21. Given the vulnerability of Indian coasts, this is a welcome step, but overall allocations need to be scaled up.

○ The National Adaptation Fund received Rs 60 crore in the FY 2022–23, the same as the RE and BE of the FY before that. Previous FYs, indicative of the government’s support to reduce transmission and distribution inefficiencies, there may be further scope for increment.

4. The Ministry of Heavy Industries

○ The Scheme for Faster Adoption and Manufacturing of (Hybrid and) Electric Vehicles in India (FAME India) received an allocation of Rs 318.35 crore in 2020–21 (A), Rs 800 crore in 2021–22 (RE), and Rs 2,908.28 crore in 2022–23 (BE) (See Figure 2).
6. The Ministry of Agriculture and Farmers’ Welfare is responsible for several adaptation-relevant interventions, such as the National Mission for Sustainable Agriculture (NMSA), PM Fasal Bima Yojana, PM Kisan Man Dhan Yojana and Green Revolution. The Ministry received Rs 1,24,000 crore in FY 2022–23 (see Figure 4), a marginal increase from Rs 1,18,924 crore (RE) of FY 2021–22 and Rs 1,08,272 crore (A) of the year 2020–21. Given the dependence of the Indian population on agriculture and vulnerability of the agriculture sector to climate change impacts, the ministry needs adequate budgetary allocations. The allocations must be made towards this budget head.

5. The Ministry of Home Affairs

○ National Disaster Management was allocated around Rs. 492.78 crore in 2022–23 and Rs 481.61 crore in 2021–22. The allocation was a scale down from the actual money spent in the FY 2020–21, Rs 499.00 crore. Given the vulnerability of India to climate induced natural disasters, adequate allocations must be made towards this budget head.
have been more or less stagnating for the past three FYs.

7. The flagship missions under **The Ministry of Housing and Urban Affairs** received the following budgetary allocations (BE) in FY 2022–23 (see Figure 5)

- the Atal Mission on Rejuvenation and Urban Transformation (AMRUT) was allocated Rs 7,300 crore,
- the Smart Cities Mission was allocated Rs 6,465.9 crore, and
- the Swachh Bharat Mission was given Rs 2,300 crore.

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**Figure 4: Trends in Allocations of Major Schemes of MoAFW.**

*Source: Union Budget, Various Years.*

**Figure 5: Trends in Allocations of Major Schemes of MoHUA.**

*Source: Union Budget, Various Years.*
The share of the schemes mentioned above for Mo-HUA in the total budget was around 0.4 per cent. With the range of objectives under these schemes, the allocations can be increased.

8. The Ministry of Rural Development implements MGNREGA which has many climate-related co-benefits like rural adaptation and carbon sequestration, along with other key rural development schemes.

- MGNREGA received Rs 73,000 crore, a 25.5 per cent scale down from the previous year’s Rs 98,000 crore (RE) and an even more significant 34 per cent decrease from Rs 1,11,169 crore (A) for 2020–21 (see Figure 6).

9. The Ministry of Jal Shakti is responsible for reducing climate vulnerability by ensuring sustainable water resources management. In 2022–23, it received Rs 18,967.88 crore (see Figure 7), which was a marginal increase from Rs 18,008 crores (RE) in FY 2021–22 but a quantum jump from Rs 7,232 (A) of the year 2020–21. This is an encouraging trend since the Ministry implements several climate interventions.
Unpacking Climate Expenditure in Union and State Budgets

India’s high vulnerability to climate change. The latest IPCC Assessment Report clearly indicates that an increase in temperature will pose a threat to Asia, in terms of delayed and weak monsoon circulation, droughts in semi-arid and arid areas, heatwaves, floods and glacier melting. In India, the report predicts a high flood risk, with major river basins experiencing an increase in flood events, as well as an increase in heat waves in both frequency and duration. This implies a critical need for increasing budget allocations to climate action.

STATE-LEVEL CLIMATE BUDGET AND FINANCING MECHANISMS

As highlighted earlier, states play an essential role in meeting India’s climate objectives. States have begun mainstreaming climate change into their departmental planning and programmes, with appropriate budget allocations.

Financing for climate action at the state level can broadly be divided into three buckets:

a. state financing for climate actions,

b. central financial assistance, and

c. debt financed investments

MITIGATION VS ADAPTATION

In the three years reviewed, the proportion of allocations made towards mitigation, adaptation or both are as given in Figures 8:

Adaptation has received a big chunk of the climate budget in all the three years, as compared to mitigation. This is because of the overlap between several adaptation and development schemes, which yield adaptation co-benefits. There are also a fair number of schemes which yield both mitigation and adaptation benefits, as seen in Table 1.

To summarize, the total budgetary allocations across the selected nine ministries for various programmes from a climate lens was only 1.46 per cent of India’s GDP (FY 2021–22). This needs to be increased approximately by a factor of 7.5 times² to achieve our climate ambitions. An analysis by IEA suggests that India requires USD 93 billion per year to establish a clean energy infrastructure, which is around 3.72% of India’s GDP³ (International Energy Agency, 2021). In addition to this, India also needs approximately USD 67 billion annually for building climate resilience because of

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² As per McKinsey report (published 2022), India requires 11 per cent of GDP to be invested to decarbonize and support growth to achieve net-zero (McKinsey Global Institute, 2022).

³ All estimations are based on India’s GDP of 2021–22.

<table>
<thead>
<tr>
<th>Ministry</th>
<th>Name of the Scheme/Programme</th>
<th>Adaptation or Mitigation Focus</th>
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<tbody>
<tr>
<td>MoEFCC</td>
<td>National Coastal Mission</td>
<td>A</td>
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<td></td>
<td>Climate Change Action Plan</td>
<td>A</td>
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<td></td>
<td>National Adaptation Fund</td>
<td>A</td>
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<td></td>
<td>National Mission on Himalayan Studies</td>
<td>A</td>
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<td>National Mission for Green India + NAP</td>
<td>A/M</td>
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<td></td>
<td>Environmental Knowledge and Capacity Building (Forestry capacity building)</td>
<td>A/M</td>
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<td></td>
<td>Decision support System for Environmental Awareness, Policy, Planning and Outcome Evaluation</td>
<td>A</td>
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<td></td>
<td>Conservation of Natural Resources and Ecosystems</td>
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<tr>
<td>MNRE</td>
<td>Wind Power (off grid)</td>
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<td>Wind Power (Grid Connected)</td>
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<td></td>
<td>Green Energy Corridor</td>
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<td>Other Renewable Energy Applications (Solar Cities, Green Buildings, Support to States, Demonstration of Renewable Energy Applications, Cookstoves, etc.)</td>
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<td>Solar Power (Grid Connected)</td>
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<td>Solar Power (OFF grid)</td>
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<tr>
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<td>National Green Hydrogen Mission</td>
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<td>MoP</td>
<td>Energy Conservation Scheme</td>
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<td>Smart Grids</td>
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<td>BEE</td>
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<td>MoHI</td>
<td>FAME</td>
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<td>Production Linked Incentive (PLI) Scheme for Automobiles and Auto Components</td>
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<td>MoA&amp;FW</td>
<td>Climate Resilient Agriculture Initiative</td>
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<td>PM Fasal Bima Yojana</td>
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<td>PM KISAN</td>
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<td>PM KISAN MAN DHAN YOJANA</td>
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<td>Green Revolution</td>
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<td>PMMGNREGA</td>
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<td>Integrated Watershed Programme</td>
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<td>National Rural Livelihood Mission</td>
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<td>PM Awas Yojana (Rural)</td>
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<td>MoHUA</td>
<td>AMRUT</td>
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<td>Smart Cities Mission</td>
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<td>Swachh Bharat Mission</td>
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<td></td>
<td>Metro Projects</td>
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(Continued)
Unpacking Climate Expenditure in Union and State Budgets

c. loans/grants from multilateral/bilateral entities.

a. Within the state financing, the key source is the allocation of the state budget to climate-relevant departments, like the Energy Department, Agriculture, and Transport etc. The state budget provides capital seeding (as part of initial investment) to state PSUs/state-owned enterprises for climate initiatives.

b. Central Financial Assistance (CFA) is disbursed to the state through Union ministries and/or central PSUs (like EESL). This assistance can be in the form of subsidies or performance grants based on the recommendation of the Central Finance Commission.

c. The last bucket is where the state receives aid and/or loans from multilateral and bilateral banks and non-banking financial companies (NBFCs) such as Indian Renewable Energy Development Agency (IREDA).\textsuperscript{5}

In Andhra Pradesh (2017–18), the share of the above-listed three buckets in the total state climate mitigation financing is shown in Figure 9.\textsuperscript{6}

Climate budgeting or climate proofing of development budgets at the sub-national level can have the following benefits:

\textsuperscript{5} However, financing from NBFCs cannot be considered part of state finances.

\textsuperscript{6} Based on analysis of the data provided in the ‘Climate Mitigation Financing Framework in Andhra Pradesh 2020’ by the Centre for Budget and Governance Accountability and Shakti Sustainable Energy Foundation.

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<thead>
<tr>
<th>Ministry of Jal Shakti</th>
<th>Major Irrigation Projects</th>
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<tr>
<td>Namami Gange</td>
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<td>Namami Gange Mission II</td>
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<td>Water Resource Management</td>
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<td>PMKSY</td>
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<td>Ministry of Home Affairs</td>
<td>Disaster Management</td>
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</tbody>
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Table 1: Schemes Considered under Various Ministries and their Contributions to Adaptation (A) and Mitigation (M).

Figure 9: Climate Finance Sources in Andhra Pradesh.
relevance and sensitivity of public expenditure to climate change in sectors outlined in Odisha’s SAPCC, spanning across 11 state government departments. The department-wise climate-relevant share for the years 2019–20, 2020–21\(^7\) and 2021–2022\(^8\) budget estimates are given in Figure 11.

The 2020–21 climate budget statement mentioned that the 2019–20 (BE) climate-relevant share was 41 per cent, which slightly increased to 42 per cent for 2020–21 (BE) and 2021–22 (BE).\(^9\) A direct outcome of this exercise has been identifying sectors that present opportunities for adaptation and mitigation actions. The 2020–2021 climate budget laid emphasis on water resources, forestry and energy sectors as having substantial opportunities to incorporate adaptation and mitigation actions. Whereas, the 2021–2022 climate budget emphasised agriculture and Panchayati Raj besides water resources, and energy. These sectors are highly relevant and/or sensitive to climate change with significant scope for climate action in the state.

**ODISHA STATE CLIMATE BUDGET**

Odisha has emerged as a leader in climate action in the country. It was one of the first states to launch the State Action Plan on Climate Change (SAPCC) from 2010 to 2015. After the first SAPCC, the state has also been one of the first to prepare the second SAPCC from 2015 to 2020. The Odisha SAPCC recognized industry, mining, transport and urban development as key priority sectors with a high potential for climate mitigation. In the first SAPCC, the budgetary requirement for adaptation and mitigation interventions was Rs 17,049 crores, which increased by around 6 per cent in the second one to Rs 31,663.58 crore. Figure 10 displays the distribution of budgetary spending on adaptation and mitigation:

**Climate Budgeting in Odisha**

The Odisha State Budget 2020–2021 introduced a special statement on climate budgeting, which evaluated the state government’s existing schemes and programmes from a climate change lens. The exercise attempts to delineate the climate change relevance and sensitivity of public expenditure to climate change in sectors outlined in Odisha’s SAPCC, spanning across 11 state government departments. The department-wise climate-relevant share for the years 2019–20, 2020–21\(^7\) and 2021–2022\(^8\) budget estimates are given in Figure 11.

The 2020–21 climate budget statement mentioned that the 2019–20 (BE) climate-relevant share was 41 per cent, which slightly increased to 42 per cent for 2020–21 (BE) and 2021–22 (BE).\(^9\) A direct outcome of this exercise has been identifying sectors that present opportunities for adaptation and mitigation actions. The 2020–2021 climate budget laid emphasis on water resources, forestry and energy sectors as having substantial opportunities to incorporate adaptation and mitigation actions. Whereas, the 2021–2022 climate budget emphasised agriculture and Panchayati Raj besides water resources, and energy. These sectors are highly relevant and/or sensitive to climate change with significant scope for climate action in the state.

**CONCLUSION**

It is recognized that climate change not only adversely impacts people’s lives and livelihoods but can erode the development already achieved. It is therefore essential to build climate resilience and take appropriate climate actions in conjunction with development priorities. While India has been steadfast in its commitments to address climate change with several programmes and schemes, the budgetary provisions to address these issues at times appear shy of meeting the scheme requirements or ensuring adequate private investment flows.

\(^9\) Our analysis shows the top five departments with highest Climate Change Relevance Share (CCRS) expenditure (in descending order): Water Resources, Coastal and Disaster Risk Management, Panchayati Raj, Forests and Environment and Urban Development and Housing.
Further, mainstreaming climate change in public expenditure must keep the country’s marginalized communities in mind. Policies and general costs must reflect India’s concern for these sections in the context of climate change. With India’s development challenges, it is evident that a sum of such magnitude can only be raised with the help of sizable budgetary allocation, bilateral and multilateral sources and private investments. Therefore, India has reiterated the need for foreign assistance to address the financial requirements of climate change.

Furthermore, India also needs to look into preparing a climate budget: the work for a framework of which was initiated a few years back by MoEFCC.

This idea of a climate budget must also be adopted at the sub-national level. Therefore, the Odisha Climate Budget Statements seem to be a step in the right direction. In other states, this could further enable mainstreaming of climate action and climate proofing of development activities.

REFERENCES

Centre for Budget and Governance Accountability and Shakti Sustainable Energy Foundation. 2020. Figure 11: Department-wise Climate Change Relevant Share in Odisha State Budgets. Source: Odisha Climate Budget Statement, various years.

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Intergovernmental Panel on Climate Change. New York, USA: IPCC.


Carbon markets, introduced under the UNFCCC’s Kyoto Protocol, were designed to reduce emissions by allowing developed countries to invest in emissions reduction projects in developing nations. However, real-world examples, such as coal power plants and mega solar parks, have often fallen short of their sustainability goals, raising concerns about their effectiveness as a tool for addressing emissions and promoting sustainable development.

The concept of Carbon Markets originated as a result of the UNFCCC (United Nations Framework Convention on Climate Change) climate negotiations and its first ‘agreement of action’ in the third Conference of Parties (to the Convention) or CoP-3 in Kyoto in the year 1997, resulted in finalization of the first carbon market mechanisms. In the negotiations, the rich, carbon polluting developed or Annex-I countries (those 37 odd industrialized countries who burned most fossil fuels and contributed most to create the climate change problem) were to reduce their GreenHouse Gas GHG emissions by about 5 per cent by the year 2008–2012, from their 1990 emissions levels (UNFCCC, Kyoto Protocol). This baseline of 1990 was later changed by some countries. The concept of carbon market was introduced and adopted as a result of the reluctance of developed countries for verifiable and absolute emission reduction in situ. The three mechanisms under the carbon markets were the Emissions Trading Scheme (ETS) or International Emissions Trading (IET), Joint Implementation (JI) and the Clean Development Mechanism(CDM) (Science-Direct, 2023).

The basic idea of carbon markets is that if any country or entity which has an obligation to reduce its carbon dioxide (CO2) emissions by a certain percentage, and is unwilling or unable to do that physically, it can buy that amount of emissions reduction from any other entity which has outperformed its own obligations and has that ‘extra reduction’ on offer in the market, or from an entity which has no obligation to reduce emissions and is doing so nonetheless (even notionally, even its projected emissions). ETS operated in the Annex-I countries, mostly in the European Union.

THE CLEAN DEVELOPMENT MECHANISM

The CDM was for carbon market trading between poorer developing or Non-Annex (those countries not in the list of historically most polluting) countries and developed countries with emissions reduction obligations. The developing countries which had no obligations to reduce emissions under the Kyoto Protocol could implement some projects where there is a supposed emission reduction, and this reduction is calculated and put in the carbon market through the CDM for purchase by an entity with reduction obligations (UNFCCC, Clean Development Mechanism). For example, a coal power plant in India—which had no reduction obligation under the Kyoto Protocol—claims that it is implementing a ‘more efficient technology’, like supercritical boilers instead of non-supercritical, that is supposed to save 4 per cent of the total emissions from a non-supercritical boiler power plant for the same amount of power generated. That 4 per cent saving on the total emission would be calculated in terms of Certified Emission Reduction (CER), and offered in the carbon market. A company in Europe can then buy as many...
CREATING LARGE CARBON MARKETS THROUGH UNFCCC PROCESSES

In the 2021 CoP-26, the 26th Conference of Parties to UNFCCC, in Glasgow, UK, one of the ‘achievements’—among several claimed—that the parties or UNFCCC-member governments claimed, was the finalization of the Paris Rule book (UNFCCC, 2021) to operationalize the Paris Agreement (PA) signed in December 2015. One issue that was strongly debated and was a bone of much contention, was the Article 6 of PA, which primarily gives guidelines or rules of how a carbon market for the PA regime will be operated. Though one part, Article 6.8 talks about non-market mechanisms, the other two important ones, 6.2 and 6.4 are about how a global carbon market regime will work (Evans and Gabbatiss, 2019).

Over 110 countries have already declared their net-zero by 2050 pledges (2060 for China, 2070 in case of India), though many are yet to detail out exactly how they will go about achieving this (Feminova, 2022). This also points to a huge potential carbon market in the coming years and next 2–3 decades. Thus, it becomes important to look back closely to the experience of implementing the earlier avatars of the carbon markets, one of whose main components was the CDM. But before going in to the specific examples of CDM project experiences, let’s also briefly look at the big picture of carbon market performance over nearly the past two decades, at the failure of the earlier carbon trading markets world-wide, to reduce emissions, whether by the domestic Emission Trading Schemes like EU’s ETS, or international carbon trading mechanisms like the so-called CDM. Studies have shown


CERs as it might find financially attractive—being less costly than its own emission reduction efforts—and this CER will be counted as its own emissions reduction. Every ton of CO2 emission reduction counts as one CER. That company will not really reduce its emission, the power plant in India will emit additional CO2, but its notional reduction will appear as carbon credit. The European company will thus be able to ‘offset’ its emissions without really reducing emissions.

The CDM has a clear target of reducing the cost of any emissions reduction obligations, transgressing national boundaries, and thus fits in with the global market ‘ideologies’. One can look for the cheapest option for carbon credits, wherever that is available. Of course several assumptions/conditionalities are also attached to the Clean Development Mechanism process—

*The funding channelled through the CDM should assist developing countries in reaching some of their economic, social, environmental, and sustainable development objectives, such as cleaner air and water, improved land use, accompanied by social benefits such as rural development, employment, and poverty alleviation and in many cases, reduced dependence on imported fossil fuels (UNEP, Introduction to the CDM).*

All the involved parties have to agree to the operations, the project selling CDM carbon credit or CER must lead to ‘sustainable development’ of the surrounding communities, this should lead to a lower carbon development path for the receiving countries etc. These are important markers based on which we will analyze India’s experience with the CDM. The money transacted through the CDM is also counted as Climate Finance. Though the CDM originated after the Kyoto Protocol in 1997, the projects and the flow of money started in 2006, and after the huge carbon bubble, nearly collapsed around 2012. Though after the Paris Agreement in CoP-21 in December 2015 and the final approval of the new market mechanisms in Glasgow CoP-26 in 2021, the CDM is replaced with these new mechanisms, the major experience till date of carbon markets in developing countries is through CDMs.

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1 A state of net-zero in terms of carbon emissions means that the country or entity claiming net-zero has not completely eliminated its carbon dioxide or GHG emissions, but the remaining emissions are being absorbed or sequestered by some means—either biological or chemical-mechanical, so that the balance of emissions and sequestration is zero.
a not so great reduction of EU GHG emissions by about 20 per cent in the last nearly 30 years (1990–2019) through the ETS (European Commission, 2020), leaving apart the COVID-19 and resultant lockdown-forced reductions in 2020. On the other hand, CDM has not shown any real emission reductions (notional reductions are hard to evaluate or verify), either in the credit purchasing country, or in the selling country or globally. Many of the large CDM projects, like support to Super-critical or Ultra-Supercritical Coal power plants, have actually led to large increases in CO2 emissions. Some notional reductions have been claimed without much validation. On the contrary, there are wide-spread reports of fraud, human rights abuses, further displacements of poor communities etc, as a result of these carbon market projects (Yumnam, 2013). This is not such a surprise given the fraudulent nature of the market and its many schemes.

**ACTUAL CDM PROJECTS ON THE GROUND**

Now let us look at a few examples of our messianic carbon market at work, from its earlier avatars, which can give us some ideas of what to expect from their new (but not much changed) avatars. These are mostly cases I have investigated on both their propositions and on the ground, and a few others were investigated by colleagues.

**Supercritical Coal Power Plant in Mundra, Gujarat and CDM**

In the 1990s and early 2000s, India was ramping up its electricity generation capacity to serve the fast growing industrial and commercial demands for power and also a huge number of then unconnected families. The country was facing massive power cuts and disruptions even in big cities. Most of these power plants were coal based as coal-based power was considered the ‘cheapest’ then, not counting the massive health, ecological and social costs of coal mining, transportation and burning. In these circumstances, the Govt of India was encouraging mega scale coal power plants (of course with mega CO2, SO2, NOX and PM10 & PM2.5 fine particulate emissions too).

In comes the carbon market and the marriage takes place between UNFCCC’s CDM and Adani Power’s mega coal power plant in Mundra, Gujarat. Adani Power (of the present Carmichael coal mine ‘fame’) is one of the fastest rising and most ruthless corporate houses in India. It uses super-critical boilers instead of sub-critical boilers, thereby using an estimated 4–5 per cent less coal than sub-critical boiler plants, for the same amount of power generated. This is a new coal power plant, in a prosperous state, by one of the biggest billionaires.

Adani Power claimed that they were getting INR 6000 million, or about USD 100 million in those times (2010–11) through this carbon market mechanism of CDM, for saving some CO2 emissions. Nice deal. But what happens on the ground? The coastline of the Gulf of Kutch in the Mundra area was home to about 7000 well off coastal fish-workers. About 2000–3000 small scale salt panners used to practise micro/family scale salt production. Thousands of pastoralists lived off the vast pasture lands of Kutch district here. The coastline and some other fruit productions prospered here as well. Date was even exported from here to some gulf countries, and that also supported the thriving sea-going (coastal) wooden ship building industry in neighbouring Mandovi. Once the 4620 MW Adani-Mudra coal power plant and then the 4000 MW Tata Mundra coal plant came in 2 years later, the coast was devastated with millions of gallons of hot water and dirty coal washed water. Thousands of fish-workers lost anything between 60–65 per cent of their incomes, with the economically attractive prawns and pomfrets almost disappearing, leaving a small catch of the ‘bread-and-butter’ Bombay Duck. The fishing season was drastically cut. From about middle class level earnings, they have been pushed to the brink of poverty. In meeting after meeting, the desperate fish-workers told us that they will fight on, but can they keep doing so on near empty stomachs? Repeated representations to the Government of Gujarat and India, to Adani Power and Tata Power etc., have fallen on deaf ears. The badly hit fishers have often contemplated distress migration.

Most of the small-scale salt panners were also pushed out by the massive pollution of both coal
produce power. The stories of brutal repression, of forcible dispossession, of (police) arresting and torturing Adivasi (indigenous) people who dared to ask for their minimum compensations for their lost homes and lands . . . this ruthless exploitation surpasses that of even Adani Mundra. Another 4000 MW ultra-mega coal power plant using super-critical boilers, given lots of concessions by the Governments of Madhya Pradesh and India, and the largesse of millions of US dollars through CDM (The Economic Times, 2011). Also a large beneficiary of funding from the US ExIm bank, which largely ignored the many complaints of human rights and ecological clearance condition violations (The Economic Times, 2010).

The whole area was originally inhabited mostly by Adivasis (Indigenous people) of Baiga, Panika, Gond, etc., tribes. Almost a thousand lost their homes and farm lands to the ‘Clean Development’ Project, certified ‘Clean’ by the UNFCCC market mechanism. Those that refused to vacate their homes without the legal compensation or the job as promised—like Kamala Prasad Panika, were brutally attacked by company goons (Climate Strike, n.d.). The local school was demolished by Reliance and they built a replacement school six kilometers away in the shabby resettlement colony called ‘Surya Vihar.’ Kamala Prasad’s school-going children were first thrown out of school for their father’s stubborn resistance to vacate their home, and also badly beaten up when they went to collect water from a ditch, having been denied all other access.

The company Reliance Power, owned by (then multi-billionaire) Anil Ambani—the younger brother of one of Asia’s richest persons Mukesh Ambani—ruthlessly exploited not only the displaced people, but farmers/villagers all around by its massive, continuously visible smokestack emissions. Farmers in a circle of 4–5 kilometers suffered crop losses, as the whole area turned from green to grey due to fly-ash and coal dust. All crops suffered as photosynthesis was greatly impeded due to the coal dust and fly-ash coating on leaves. The drinking water wells of villages always remained covered with a layer of coal dust/fly-ash. Respiratory diseases increased rapidly, particularly among dust and fly-ash contaminating their salt. The big companies have their machinery to refine the salt, not the micro scale family run salt panners. Again, a few thousand sustainable livelihoods lost. Many pastoralists reported to us that their cattle are having abdominal diseases and abnormal abortions due to eating ash and coal dust covered vegetation. Cattle and camel numbers have drastically fallen also because large amounts of common pastureland have been taken over by Adani. The Mundra area is the only belt in the vast Kutch district where sweet groundwater is available. Fruits and dates thrived here in the hot weather with enough water. Thriving orchards of ‘Sapota’ (Sapodilla) were completely devastated by a black blight, most likely from the fly-ash. Once the two mega coal power plants started, most of the sweet groundwater was sucked out, making the communities dependent on small tanker supplies by either the government or by the same Adani. Complaints by villagers have been brutally dealt with. The young and energetic elected head of Navinal village council was arrested under the draconian UAPA (Unlawful Activities Prevention Act) on complaint by Adani, for demanding that they provide drinking water to their village as promised. Our enquiry with local medical practitioners found that respiratory diseases, particularly URTs (Upper Respiratory Tract diseases) amongst children and the elderly increased over 20 per cent within 3 years of these mega coal power plants beginning. These and more are documented in the FF report that I wrote in 2012—‘The Real Cost of Power’. A series of exposés and reports have brought out the sufferings of the local communities as a result of this carbon market assisted ‘Clean Development’ project (Law, 2020).

One remembers that ‘sustainable development’ of the communities in the project area was also a condition in the CDM, though hardly ever enforced. SD Indicators that Adani submitted to get certified as a ‘Clean Development’.

**Reliance Sasan Coal Power Plant, Singrauli, Madhya Pradesh**

Another beneficiary of the market mechanism of CDM, helping India ‘develop’ by burning coal to
Carbon Markets and the CDM Experience in India

The very young and the old. Compensation for acquired houses and lands were given at a far lower value than market rates. Those who protested and demanded the proper compensation, faced both the company goons and police beatings.

The Resettlement and Rehabilitation (R&R) policy of the government which it signed was violated with impunity, and never gave the land-losing families any permanent jobs. Jobs were all i, with 11–12 hours a day of work. You complain and you are out the next day, with pending dues forgotten. Many contractual construction workers died in accidents during the construction phase (Power Magazine, 2016). Many dead bodies vanished without a trace, a convenient way to avoid paying compensation and face possible legal cases, when you employ only far off migrant labour, not locals. A few courageous locals who dared to protest this brutal oppression, like Sati Prasad (a local who lost land but not his homestead), was picked up in the dead of night by the police, hanged upside down with a rope and beaten continuously till he became unconscious (Carbon Market Watch, 2014). His crime? He threatened to organize the oppressed locals and organize a demonstration. Reliance officials made a phone call to the local police chief, and that was enough. No laws apply.

The shabbily constructed ash ponds submerged huge areas under toxic waste, and these leaked regularly, contaminating surrounding agricultural fields. On occasion, parts of the ash ponds walls collapsed, sending thousands of tons of this toxic fluid into villages, and killing animals and even people (15–16). Every time I went for investigations (around 4–5 times), a police sub-inspector was assigned to watch us and put spanners in our plans. Under whose instruction—it is not difficult to guess. Every time a jeep full of goons (guess who would send them) used to follow our vehicle when we visited the displaced villages, the shanty resettlement colonies, the site of the leaking ash ponds. These goons often followed our vehicle in the intervening forest areas between Renukoot (the nearest well-connected railway station) and Singrauli. The Clean Development Mechanism had no oversight or accountability of what was happening in one big CDM beneficiary area, or in any one of these. It didn’t even notice the many newspaper reports of the massive pollution this plant is causing—with its coal dust and smoke stack and ash.

Mega Solar Parks in Rajasthan

In the far west of India, in the desert state of Rajasthan, lies the Thar desert spanning over 160,000 sq kms. Unlike some other deserts, Thar is full of human and animal life, including a large population of sheep and goats, which are the mainstay of rural livelihoods, as the meagre rainfall supports only one sparse crop a year. In the desert districts of Jaisalmer, Jodhpur and Bikaner in India (‘Thar’ also extends to Pakistan), a large number of Solar PhotoVoltaic (PV) and wind-turbine-based renewable energy power plants have come up. There are plans for many more. A good development for a transition to a clean energy system for climate action. ‘Justifiably’ many of these projects have got the carbon market money from the CDM. But giving out large tracts of what was essentially commons—vast non-private pasture lands—to mega solar parks has created huge problems for the large pastoralist communities. Pastoralists traditionally took out the herds of sheep and goats to the vast arid deserts. Camels are also an asset in these deserts, not only for transport, but also for their milk, meat and skin. Because of the sparse vegetation, vast pasturelands are a prerequisite for these herd-ers.

The development of the massive ‘Solar Parks’, often 5000 acres or more in one stretch, adversely affected many areas. Let’s look at Bhadla in Jaisalmer district, India’s largest single-site Solar PV plant with a peak power capacity of over 2200 MW. It’s the crown jewel for India’s RE programme. The carbon credits from these Solar PV plants (NatureOffice, n.d.) are definitely not as dirty as those from Adani Mundra or Reliance Sasan Coal power plants. But here also one can see the footprints of mega corporations like Adani trampling the rights of local communities. In this area, the Adani Fatehgarh 1500 MW mega solar park has been allot-
ects. Even the few temporary and low paid jobs of security guards, provided to some locals at the initial stages, are disappearing. The large projects have created social tensions in these rural societies, by creating a small influential section of suppliers and contractors, usually controlled by the village/Panchayat strongmen, who also fend off complaints from other impacted villagers.

Hydroelectric Power Projects in The Himalayas

There are a large number of dam based hydroelectric projects in India which have registered with the CDM and got/are getting carbon market funding through this. Many of these are located in the fragile Himalayas, as the high gradients and resulting fast running streams in narrow river channels make the prospect of generating more power attractive. By some counts, over 80 hydroelectric projects in the Himalayas have registered to get CDM money, with the logic that generating electricity from running water does not create carbon dioxide emissions, thus replacing fossil fuels for generating the same amounts of electricity. But many or most of these hydroelectric projects have created havoc in the lives of local communities (International Rivers, n.d.), even though the complete physical displacement by submergence is not as high as projects in peninsular India (like the Sardar Sarovar Dam on Narmada river, which displaced over 195 villages and 240,000 people). Of course there are glaring exceptions like the Tehri Hydroelectric project in Uttarakhand Himalayas, which submerged over 100 villages and one district headquarter town, inundating the homes, fields and social infrastructure of over 10,500 families.

Let’s take the case of the Sawra-Kuddu hydro-power project in the Shimla district of Himachal Pradesh (WRM Bulletin 165, 2011). This 111 MW hydropower project on the Pabbar river, like many others like it, also violates the condition of ‘additionality’ as required in CDM, i.e., without the CDM money, the project should not be viable. Sawra-Kuddu was designed and initial work started around 2004–05, while the CDM registration...
process came years later. But its adverse impacts on the 45 small mountain villages in Shimla district, goes far beyond those technical considerations. As these are so-called ‘run-of-the-river’ projects, the entire river was diverted through a huge tunnel blasted out of the mountain to get the water out in a place where a high fall is available for generating more power. The continuous blasting inside the still-uplifting and fragile Himalayas has caused the entire hill to loosen up, causing several cracks in houses of villages above (Vishwapremi, 2016). The village of Bhadot lives in constant fear as the huge tunnel runs directly under it, thus creating a possibility of recurring subsidence, water loss and damage to structures. Many water sources have dried up as the water percolated away through the numerous fissures that opened up. Many of the displaced families have received meagre compensation, some have not received any. Those whose houses or land have not been acquired, but who reside in the hill slopes and are severely affected by the years-long blasting of the tunnel, have not been considered as Project Affected People (PAP) and have not been compensated, even for their damages.

Similar tales of displacement, damage, repression and denial abound in project after hydropower project here, be it the much larger Allain-Duhangan or the 450 MW Rampur hydropower project on the mighty Satluj river. What taints the entire CDM process further is that despite many complaints (some communities were assisted in lodging complaints, some complaints were lodged by activists or environmental groups), almost no such project was denied the CDM money, nor other actions taken. The carbon market through CDM seems to have been just a green-washing clearance for big projects executed by corporates and governments, with scant regard for the actual stated objective of emission reduction and sustainable development.

The same story is found/seen to be enacted in CDM assisted hydropower projects all across India, whether in the eastern (Teesta) or western (Satluj, Pabbar) Himalayas, or small/mini hydropower projects like the Deogad hydropower project in Kanakavali taluka of Sindhudurg district in Maharashtra’s Konkan belt (Mate and Yashmin, 2010). Apart from transferring some money to the project owners and letting big polluters showing a ‘carbon credit’ off the hook, these projects have not achieved their stated purposes. The massive losses of forests by inundation, resulting in loss of large natural carbon sequestration areas, and the additional methane emissions (methane or CH4 being about 85 times as powerful a greenhouse gas in the decadal scale) might even show these projects as net carbon dioxide equivalent (CO2e) emitters, or carbon positive, rather than carbon negative as claimed in the designs. The additional impacts of displacement and deprivation of surrounding communities and no cognizance of such widespread violations of CDM conditions make market mechanisms the worst and false pathways to mitigation.

CONCLUSION

There are literally hundreds of such CDM horror stories; that of violence against local communities, ruthless exploitation of both nature and humans, violations of almost all CDM conditions. Yet, there is hardly any evidence of either any significant reductions in emissions or of ‘sustainable development’ of the communities in the developing countries. The only two outcomes clearly visible are that the developing country corporations have pocketed big extra money, while the developed country corporations who gave the carbon market money by purchasing the credits, have been let off without actually reducing their emissions as claimed. The basic rules of the market operations, that of minimizing the cost and maximizing the gain. As any strict monitoring and implementation of even basic norms and rules would have driven up the cost of the CERs, neither the purchasing entity nor the selling entity showed any interest in pursuing that course of action. Even the regulators, the UNFCCC’s CDM Executive Board (EB), the nationally designated authorities in the receiving countries (in India’s case, it was the then Ministry of Environment and Forests, name changed later) never bothered to do much, despite many complaints, as the money flow was attractive.
to the receiving countries, while the CDM EB was probably happy with the 'success' of the CDM. If there are no drastic changes in the whole market mechanisms, there is likely to be a repeat of these stories, in much larger numbers.

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India aims to achieve net-zero emissions by 2070, but the transition comes with an estimated cost of $10 trillion to $17.7 trillion. Central banks, such as the Reserve Bank of India, are also recognizing the risks posed by climate change. Public and international finance, along with carbon pricing, will play pivotal roles in funding the transition. Balancing private and public finance will be essential to meet the financial demands of this monumental shift.

2015 was a historic year, when 195 countries adopted the Paris Agreement, thereby committing to reducing global warming and to build resilience to climate change through the nationally determined contribution. In 2018, the Intergovernmental Panel on Climate Change (IPCC) found that ‘limiting global warming to 1.5°C would require rapid, far-reaching and unprecedented changes in all aspects of society’ and that ‘CO₂ emissions would need to fall by 45 per cent from 2010 levels in 2030 reaching net zero in 2050’ (IPCC, 2018). Therefore, to enhance their commitment under Nationally Determined Contributions (NDCs), countries began to pledge their net zero targets. As of March 2022, 33 countries and the European Union have set such a target in law or have made a policy commitment. There are 100 countries that are either considering or have proposed a net zero (NZ) target (Climate Action Tracker, 2022). India joined the group of countries at COP26 in Glasgow, committing to reach NZ status by 2070. Though the timeline for reaching carbon neutrality is perceived as protracted (McGrath, 2021) when compared with that of China (2060), US and EU (2050), the historical inequities in carbon consumption also enshrined in the common but differentiated responsibilities justify the long horizon. Nevertheless, with industries seeking more sustainable ways of production the transition is already underway.

At the moment there is no clearly defined pathway for how the net zero will be achieved by India, unlike the EU’s green deal (European Commission, 2022) that is comprehensive and strategic, covering multiple sectors and the aspect of jobs. Doubtless that India’s net zero ambition requires significant financial support it is critical to estimate the cost. Centre for Energy, Environment and Water draws multiple net zero pathways for India, based on assumptions of peak in demand for fossil fuels, technological shift as well as year in which net zero will be achieved. Drawing on these pathways for key sectors including power, transport, industrial, building, and refinery, the authors estimate the financial costs for achieving NZ target by 2070, assuming that consumption of fossil fuels peaks at 2040, is USD 10 trillion (Singh and Sidhu, 2021). They further estimate that assuming conventional sources of finance continue to be made available for this transition, the gap in funding will be USD 3.5 trillion (Ibid.). Alternatively, Standard Chartered bank estimates the finance required for achieving NZ target in India at USD 17.7 trillion (The Economic Times, 2022). By no comparison are the financial requirements for net zero modest. To put this in perspective, India’s annual revenue and capital expenditure budget is USD 314.8 billion. While companies have independently embarked on their net zero plans or sustainability linked activities, there will be a need to scale up public finance. This raises an important concern of what activities may need to be financed and who will finance these projects.
The bulk of India's carbon emissions are accounted for by the power sector that remains heavily dependent on coal, followed by transport, iron and steel, cement and other manufacturing (IEA, 2021). If we account for greenhouse gas emissions, agriculture is amongst the top emitters. Therefore, to recalibrate production processes in the economy, technology will be critical. India's NZ transition hinges on the successful technological breakthrough including that in carbon capture and storage technologies as well as adoption of green hydrogen. There are efforts at the moment to invest in research on CCS by the Department of Science and Technology. At the same time, companies such as Indian Oil Corporation are exploring partnerships to carry out design and feasibility studies for an industrial carbon capture and utilization project (Gupta, 2021). The power sector is pacing ahead to diversify the energy mix and PSUs such as Coal India Limited and NTPC have announced their diversification plans.

Similarly, the cement industry has made efforts to decarbonize via alternative methods including the use of blast furnace slag to produce low carbon cement or waste heat recovery power generation systems or solar power for reduction of emissions (The Economic Times, 2022). The steel industry, among the third largest producers of carbon dioxide, is exploring the use of biomass as an alternative to coal as a reductant, an increased usage of DRI in electric arc furnaces and recycling by melting scrap (Hoffman, Hoey and Zeumer, 2019). In the transport sector there is an increased thrust on electric mobility, with different states in India adopting EV policies to support the transition.

It is unprecedented for large corporations to take into consideration the social costs of their actions. There remains cynicism among experts whether the tilt in thinking is permanent and what is driving the change. Commitments made by governments under the Paris Agreement and bolstered by the Net Zero pledge indicate that business as usual may not continue. Governments around the world, especially the EU are adopting a host of policies such as carbon taxes, emission trading systems and disclosures to ramp up pressures on corporations. Acknowledging these changes, financial markets have taken cognizance of the inevitability of decarbonization. As a result, the math of investing has changed, i.e., companies and their assets in the ‘brick and mortar’ sector face the challenge of reorienting to survive. In India, the initial pressure to pivot came from large institutional investors that demand better disclosure of environment, social and governance performance. Non-financial disclosures were adopted in 2011 as National Voluntary Guidelines. Later, Business Responsibility Reporting was introduced in 2012. As the number of companies covered by the voluntary disclosures expanded, users of the information including rating agencies stressed the incomparability or poor quality of information (BlackRock, 2020). The noise in the reporting reflects in the divergent ratings for the same company by different agencies (Mayor, 2019). In order to address the challenge, a global initiative was launched to move to better and uniform standards of reporting, following which India has now adopted Business Responsibility and Sustainability Reporting (BRSR). The BRSR, unlike the preceding reporting standards, is more detailed, objective and will become mandatory for the top listed 1000 companies from FY 2022–23. Such reporting is expected to change the way corporations invest and bring fresh investments to the companies. However, the size and number of ESG funds remains limited (Mint, 2022). In 2021, the assets under management of ESG funds touched INR 11,800 crore (Sultana, 2021).

In addition to the reporting standards, in India corporations with net worth above INR 500 crore, turnover above INR 1000 crore or net profit above INR 5 crore are mandated to spend 2 per cent of their average net profit for the immediately preceding three years on corporate social responsibility (Section 135, The Companies Act 2013). CSR spend in India was INR 8828 crore in FY 2020–21, down from INR 24,688.7 crore in 2019–20 (Chanda, 2021). The quantum of investments made in ESG funds and the CSR spend

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1 International Financial Reporting Standards Foundation was established to create a global baseline for reporting.
indicate that while private capital is turning its attention to ESG, financial returns still draw investments. Often, the switchover from shareholder to stakeholder capitalism is demonstrated using the performance of the ESG based indices as compared with the regular index. For example, it is argued that the NIFTY 100 ESG outperformed the NIFTY over 2020–21 (Jethmalani, 2021). However, there are experts who advise caution when reading causality in what might be a correlation between ESG reporting and returns (Damodaran, 2020). In recent years, there has been an increase in the emphasis on the related impact that energy transition can have on communities and workers. It is now agreed that the transition must be just and at COP26 30 countries signed the Just Transition (JT) declaration (ILO, 2021). Even though India is not among the signatories, select Indian companies such as NTPC, Tata Motors, GAIL, Reliance and ONGC report to the World Benchmarking Alliance on their initiatives on JT. While there are several points of engagement with corporations, the financial flows do not currently match the ambition.

The fact about the Indian financial system is that although market based sources of finances have gained importance in recent times, banks are still the predominant source of finance with non-financial companies owing close to 35 per cent of their debt liabilities to banks (Prakash and Kumar, 2021; Ghosh et al., 2022). With the energy transition in the offing, dual effects will be observed on the banking sector—loan portfolios of banks exposed to carbon intensive sectors may be adversely impacted while at the same time, companies will seek out loans for their expansion and diversification. Furthermore, risks of inflation will be pronounced by extreme weather events. For these reasons, it is argued that Central Banks can play a pivotal role in the transition, especially since financial and price stability are at the core of the central bank's responsibility and fall within its existing mandate (Schnabel, 2021). However, on the flipside it is argued that impact of climate change on inflation will be realised over a long horizon and the central bank may not possess superior knowledge to private sector (Bartholomew and Diggle, 2021). Yet, the ever-increasing number of banks (83) joining the network for greening the financial system (NGFS) indicates that central banks cannot ignore these risks. Central banks tend to adopt different strategies to address the impact of climate—Bank of Lebanon has already employed differential reserve requirements and Central Bank of Brazil has been among the first central banks to issue binding amendments to its macro-prudential regulatory framework, taking the exposure to environmental damages and risks into account (Aniño, 2021). India on the other hand, has adopted a form of credit guidance, i.e., the inclusion of renewables in priority sector lending. Yet, the loan exposure to non-conventional energy remains at 8 per cent of total loans to energy sector (Ghosh et al., 2022). As pressure mounts, RBI is beginning to measure the associated financial risks. In 2020, RBI estimated that weather conditions, especially rainfall, have a strong influence on food inflation trajectory and the impact lasts for several months (Dilip and Kundu, 2020). RBI also assessed the transition risks, and it observes that the combined share of outstanding loans to sectors directly exposed to fossil fuels that include electricity, chemicals and automobiles is limited. Although, indirectly exposed sectors such as cement, textile, and paper products account for a high proportion of bank loans, and already report high GNPA and low ICR. If the risks become pronounced over time, it is expected that there may be a contagion effect from phasing down. At the same time, renewables remain a small part of the portfolio. This simultaneous impact of phasing down and phasing up requires an understanding of the pathway and the pace of transition. It is imminent that even though the RBI may adopt a more conservative approach by not explicitly incorporating climate within the folds of its mandate, the banking system will remain key for this transition.

Among the debt instruments, companies are also tapping the green and sustainable bond market. In 2021, green bond issuance touched USD18.3 billion (Chavan, 2022; Ghosh, Nath, and Ranjan, 2021). While these are a successful al-

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2 See Ghosh et al. 2022.
ternative to bank credit, these typically have higher coupon rates than corporate and sovereign debt. The issue then remains of access to this source by small ventures.

If private capital remains limited and the banking sector is prone to fragilities, what other alternatives are available to countries? Since the energy transition is a system-wide change, it is imagined that public finance, domestic and international, will be instrumental. Yet again, like the banking system, public finance faces a similar conundrum. Today, India relies heavily on fossil fuels as a revenue base. Nearly 17 per cent of the states' and centre's revenues are from energy (Aggarwal et al., 2022). With low carbon transition, these revenues may also dissipate, while there may still be need for subsidies to alter consumer behaviour. It is therefore important to imagine the trajectory of taxation during the transition. There are three key considerations—one, there is a need to define a rate of carbon tax and/or price of emissions that can simultaneously increase revenue and nudge shift to renewables. Two, there is a need to think of points on inflection when renewables will become de rigueur and no tax incentives will be available. Three, a compensation mechanism whereby gains in revenue from high fossil fuel prices as well as carbon tax are stashed away exclusively for transition aligned activity. It is also important to consider the needs at the local level. There is enough evidence to suggest that this transition will not be spatially even, therefore the public finance needs of districts and states must be deliberated before the finance commission. Currently, funds are available, though underutilized, through the district mineral fund which is proportional to the coal mining. Over time, the phasing down of coal will also displace this source of finance. It is therefore imperative to design financial instruments for the future. It is possible to leverage impact and municipal bonds which will require fiscal support for issuance and repayment.

Internationally, developed countries have committed USD 100 billion per year for climate action in developing countries. Multilateral Development Banks (MDBs) have so far provided climate finance to the tune of USD 66 billion of which USD 38 billion was provided to low- and middle-income countries (Asian Development Bank, 2021). While the funding pales in comparison to the demand, they are an important source of debt. To relay their commitment to the transition many MDBs have committed to not fund any coal, oil and gas projects (McCandless et al., 2021). Yet, the terms of such funding and the plan for transition remain crucial. The example of the USD 8.5 billion funding to South Africa is an example of why it is essential to define the use and terms of this capital (Sguazzin and Prinsloo, 2022).

Compliance with reporting standards and pressures from investors conscious of the impact of corporate inaction have preceded the pledge to NZ by India. If the estimates by Climate Action 100+—that 166 companies account for 80 per cent of industrial emissions (https://www.climateaction100.org)—are accurate then policy changes that price carbon along with investor action can bring substantial change. This however needs to be supplemented by investments in public infrastructure, and the cost of switching by consumers and livelihoods for those displaced. Adding the different sources of finance indicates that private and public finance must be scaled up.

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Who Will Pay the Price of Low Carbon Transition?


SECTION II

Sectoral Overview
CONCEPTUALIZATION AND IMPLICATION OF THE NATIONAL MONETIZATION PIPELINE

Chirashree Das Gupta

The National Monetization Pipeline (NMP), introduced in 2021, aims to generate revenue by monetizing existing infrastructure assets. Concerns include unclear new infrastructure creation, budgetary inconsistencies, and a lack of transparency. Lukewarm corporate interest suggests potential failure, raising questions about NMP’s effectiveness in achieving infrastructure development goals.

The National Monetization Pipeline (NMP henceforth) was announced by the Finance Minister in August 2021. Conceptualized officially by the NITI Aayog and claimed to be done in consultation with the infrastructure line ministries, the purported aim of the NMP was to monetize assets to ‘unlock value in brownfield projects to engage the private sector’ (NITI Aayog 2021).

This chapter is aimed at analysing the implications of what has been claimed to be a novel attempt to generate infrastructure worth Rs 6 lakh crore in a period of five years. The chapter is divided into two sections. The first section provides a summary of the development of national infrastructure after independence through the public sector and subsequent failed attempts to privatise it. The second section analyzes the NMP in this backdrop to assess what it entails and its political economy implications.

THE DEVELOPMENT OF PUBLIC SECTOR INFRASTRUCTURE IN POST-INDEPENDENT INDIA

One of the features of capitalism in India since Independence has been the continuity in the state being a site of primary accumulation for indigenous big capital. The modalities of the process of this primary accumulation has however changed over time. Broadly, the period between 1950 and 1980 can be divided into two distinct phases; 1. Feldman Mahalanobis Trajectory (1950–1966) and 2. Dirigiste Populism (1966–1980). While the entire institutional structure to facilitate big capital’s primary accumulation through the terrain and aegis of the state was installed in this thirty year period, we will focus on the modalities of large and medium infrastructure provision as a part of this institutionalization of the regime of private big capital. In both the periods under consideration, the provision of infrastructure (physical and financial) was based on asset creation through the development of the public sector. Given the long gestation period of investments in infrastructure development and the question of externalities, political organizations of private capital (FICCI, Bharat Chamber of Commerce, etc.) insisted on the public sector providing both infrastructure and basic and intermediate goods at low cost for their own profitability. Thus power (thermal and hydroelectric), roads, railways, ports (air and sea), iron and steel (basic goods), heavy metal and chemicals, bulk drugs and banking and finance, R&D in agriculture and industry were all part of this provisioning across these two periods in response to the needs and demands of big private capital in India.¹ This provisioning of infrastructure directly subsidized

the growth of private capital in India for the first thirty years after India became a republic in 1950 and thus the state developed and maintained infrastructure assets for the utilization of the private sector at nominal cost. This was financed through public money and in that sense it was the savings of the bulk of the population and the taxes paid by the working class (because share of indirect taxes were much higher than direct taxes which meant people with less income paid a larger share of tax as a ratio of income for whatever they consumed). The nationalisation of coal mines and banking was also in keeping with this provisioning of the private sector by the public sector. Both banks and financing companies under the public sector were used to finance the provisioning of public infrastructure.

This mode of primary accumulation by the private sector ran into crisis by the mid 1970s due to the inherent demand constraint in the economy because of the inability of the state-capital relationship to ease the agrarian constraint and absorb the large labour surplus—two inter-related institutional problems inherited from the colonial period. The implications of the demand constraint worked at many levels, most importantly in the rise of inequality with the small but powerful upper classes’ penchant for consumption of imported luxury goods—a phenomenon associated with the birth of contemporary neoliberal globalization (starting with the coup in Chile in 1973) (Bagchi 1998). A large section of the big business groups (which had proliferated substantially by this time) also wanted import liberalization to access cheaper raw materials. Due to the domestic demand constraint, they also wanted to diversify into export-based expansion (Gupta 2016). This led to the first phase of neoliberalism in India which lasted for a little over a decade from 1980 to 1991. In this period, import liberalization of luxury goods along with deregulation of import barriers of infrastructure and basic and intermediate goods was enacted. Most importantly, the private sector was allowed into several infrastructure areas—power, mining and basic goods in iron and steel. However, the public sector was still retained for investments that had long gestational periods (ibid.).

By 1991, a large section of both domestic big capitals saw opportunity in infrastructure that the public sector had built. This led to the first attempt in the mid 1990s to privatize the bulk of the public sector. However even though divestment became the chosen route, there were no outright buyers despite multiple attempts to sell off many public sector units. The private sector preferred entry into infrastructure areas on a piecemeal basis. Subsequently, between 1999 and 2004, attempts were made to privatize the railways and ports. While the second gathered steam since 2009 (during UPA II), the attempts to privatize the railways (which started since 1999 during the tenure of NDA I) failed even though portions of ‘non-core’ areas (catering and sanitation) was outsourced to the private sector. This became the norm not only for the railways but for most public sector institutions including health and educational institutions.

Thus outright privatization of infrastructure failed in the first two and a half decades after liberalization. Periodic divestment and outsourcing to the private sector became the chosen route of privatization of the public sector.

THE NATIONAL MONETIZATION PIPELINE

On one hand, the outright privatization agenda had failed despite repeated attempts for almost thirty years due to no takers. On the other hand, over six decades, the public sector has built substantial physical and financial assets that were lu-
In the 2021–22 receipts budget, Rs 75000 crores was the budget estimate for receipts from disinvestment and another Rs 100000 crores were estimated to be receipts from disinvestment of government stake in Public Sector Banks and Other Financial Institutions. However the revised estimates in the 2022–23 showed just Rs 65000 crores from disinvestment receipts and no receipts at all from disinvestment of government stake in Public Sector Banks and Other Financial Institutions (Table 1).

The 2023–24 budget then changed the format of reporting of miscellaneous capital receipts. Instead of the head ‘Disinvestment Receipts of Government Stake in Public Sector Banks and Other Financial Institutions’, ‘Other’ is brought in as a new budget head. So miscellaneous capital receipts are redefined as ‘receipts on account of disinvestment of part of government equity in Central Public Sector Enterprises (CPSEs) proceeding from strategic disinvestment, monetization, and other such transactions’. (Receipts Budget 2023–24; p.17 emphasis added). Further, it has been stated that ‘Government has constituted a ‘National Infrastructure Fund” (NIF) into which the proceeds from disinvestment of government equity in selected CPSEs is channelized. The fund so credited to NIF will be withdrawn and used for financing expenditure on infrastructure projects, education, health sectors and investment in Indian Railways towards capital expenditure in 2023–24’ (ibid).

As is evident from Table 1 the actual figures for 2021–22, the year of the declaration of NMP was just Rs 14638.22 crores — a very low figure compared to the BE and RE figures of Rs 175000 crores and the RE figures of Rs 65000 crores. Thus the claims of achievement of NMP targets for the first year is far from reality and hence the need to change the reporting structure clubbing all kinds of disinvestment by the Government of India including monetization under NMP. Further as is apparent from Table 1, the RE figures for 2022–23 have been revised downwards from the BE figures; and the 2023–24 BE figures are just Rs 1000 crore more than the RE figures for 2022–23.

Table 1: Budgetary Disclosures on Disinvestment

<table>
<thead>
<tr>
<th>Year</th>
<th>Disinvestment Receipts</th>
<th>Disinvestment of Government Stake in Public Sector Banks and Other Financial Institutions</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019-20 (Actual)</td>
<td>50304</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020-21 (Actual)</td>
<td>37897</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021-22 (BE)</td>
<td>75000</td>
<td>100000</td>
<td></td>
</tr>
<tr>
<td>2021-22 (RE)</td>
<td>65000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Disinvestment Receipts</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021-22 (Actual)</td>
<td>13627.22</td>
<td>1011</td>
</tr>
<tr>
<td>2022-23 (BE)</td>
<td>65000</td>
<td>0</td>
</tr>
<tr>
<td>2022-23 (RE)</td>
<td>50000</td>
<td>10000</td>
</tr>
<tr>
<td>2023-24 (BE)</td>
<td>51000</td>
<td>10000</td>
</tr>
</tbody>
</table>

That these figures are nowhere close to the actual targets under NMP announced by the Finance Minister in 2021–22 based on the blueprint drawn up by the NITI Aayog is a moot point. The question that these figures beg is that how then will the Rs 10 lakh crore announced for the NIF by the Finance Minister in 2023–24 be financed? The apparent route so far has been by compression of capital investment in important social and economic sectors, including sectors like agriculture and allied activities (Ministry of Finance 2023, p. 49) that lead to the creation of important arterial infrastructure, as opposed to the nodal infrastructure created by ‘big infra’ conceptualized under NMP. This further exacerbates inequality and disparity, both sectoral and social.

This brings us to the third area of concern—the lack of transparency in the NMP. The targets for the following sector had been specified in 2021: roads (Rs 1,60,200 crore), railways (Rs 1,52,49 crore), power transmission (Rs 45,200 crore), power generation (Rs 39,832 crore), Natural Gas Pipeline (Rs 24,462 crore), Product Pipeline/Others (Rs 22,504 crore), Telecom (Rs 35,100 crore), Warehousing (Rs 28, 900 crore), Mining (Rs 28,747 crore), Aviation (Rs 20,782 crore), Ports (Rs 12,828 crore), Urban Real Estate (Rs 15,000 crore) and stadiums (Rs 11,450 crore) (NITI Aayog 2021). This does not add up to Rs 6 lakh crore. Moreover, there is no annual breakup provided of how much infrastructure has been created in 2021–22 and 2022–23 under the NMP. The asset register details provided in the receipt budget of 2023–24 shows that the only government asset that has decreased is land worth Rs 7793.69 crores in 2021-22 (Ministry of Finance 2023, p. 53). Has this land been transferred to private parties or sold outright or given under lease as per the NMP? There is no way to know this from the public documents of the Government of India including the budget. Further, the NMP documents do not tell us whether the NMP accruals will come to the Consolidated Fund of India or the CPSEs and how these would be then routed to the National Infrastructure Fund.

On March 4, 2022, Amitabh Kant, the CEO of NITI Aayog admitted in a conference that there were no takers for the Railways’ asset monetization pipeline (The Economic Times, 2022). In the same conference, ‘Department of Investment
and Public Asset Management (DIPAM) Secretary Tuhin Kanta Pandey said the policy announced in February 2021 for public sector enterprises is now the guiding policy for divestment’ (ibid.).

From the two statements above, one can decipher that for all its claims, the NMP was and is simply yet another way of divestment of the public sector.

Big corporate players in infrastructure like Larsen & Toubro had earlier made it clear that they were not interested in bidding under NMP (Prasad 2022). The Confederation of Indian Industries had also put forward their reservations about execution related issues in the NMP (Ibid).

The lack of enthusiasm from big capital is explained by the macroeconomic context. In the face of rising inequality in India under neoliberalism through continuous labour cheapening for the last three decades, exacerbated first by demonetization of currency in 2016 and then the pandemic, the demand constraint has become extremely severe in India. With a world recession looming since 2008, the prospect of high returns abroad are also bleak. In such a situation the slow down in physical investment especially in fixed assets has been a feature of the last two decades and this slow down has intensified in the last six to seven years. Given this scenario, big capital clearly is not interested in acquiring assets even when offered for a song. The reorganizing of the budget heads and the lukewarm response from big capital suggests that like all earlier attempts of large scale privatization, this attempt of total privatization of public infrastructure by stealth through the NMP is headed towards failure in all likelihood.

REFERENCES


INTRODUCTION

In 2015, the Government of India trumpeted the inception of a nation-wide project, Smart Cities Mission, which aimed at local-area development and harnessing technology considered to be ‘smart’—facilitating 100 cities and its inhabitants with enhanced liveability in terms of adequate water and electricity supply; improved sanitation and waste management; health and education, access to affordable housing, especially for the poor.

The cities, which were selected under the mission, were required to submit proposals elaborating on the planning of projects keeping in mind the local context, a blueprint of the implementation plan and expected sources of financing. They were evaluated by the State Mission Director and approved by the State-level High Powered Steering Committee (HPSC). The data was available publicly till the end of financial year 2021–22 on the Smart Cities Mission website information from respective city proposals and Public Private Partnerships (PPPs) on the India Investment Grid website have shown interesting trends.

MISSION PROGRESS

The 100 smart cities were selected in five rounds across the nation and the mission’s duration was decided to be five years (FY 2015–16 to FY 2019–20), and, subsequently, extended for another three years due to the interruptions caused by the pandemic. As we near the deadline in FY 2022–23, our data showed that the project completion rate has only reached 51.14 per cent of the total projects. On 6th February 2023, Union Minister of State for Housing and Urban Affairs, Kaushal Kishore, stated that, as on 27th January, out of 7,804 projects worth Rs 1,81,322 crore, for which work orders have been issued in the 100 smart cities, 5,246 projects worth Rs 98,796 crore have been completed, which amounts to a project completion rate of 67.2 per cent and fund utilization of 54 per cent. Following this, on 12th February 2023, an official claimed that 22 cities will be completed by the end of next month, and the rest of the 78 cities in the following three to four months (PTI, 2023). Given that, after nearly seven years, the project completion has reached 67.2 per cent, it seems to be a long stretch of 32.8 per cent to be covered in the next four months. Also, an average rate of completion (67.2 per cent) also doesn’t tell us about city-specific project completion rates.

The data we collected in March 2022 showed that while cities such as Varanasi, Surat and Indore have a completion rate above 80 per cent, on the other hand, Shillong and Atal Nagar are below five per cent. Out of the funds released for project implementation, Shillong, Bhagalpur and Kalyan Dombivali had utilized less than 1 per cent of the funds. Rs 5 crores out of the Rs 1,501 crores in Kalyan Dombivali and for Shillong Rs 1 crore
out of Rs 519 crores. Recent data on these cities is not available on the Smart Cities Mission website which shows zero for all indicators presently, such as project tenders issued, projects completed, funds released by union and states, funds utilized amongst others (GoI, n.d.).

Another valuable measure of the mission’s progress is what the union government had committed and what has actually been released. The union and state Urban Local Bodies (ULBs) committed Rs. 96,000 crores, divided equally, out of the proposed total expenditure of Rs. 2,05,018 crores. Out of the committed Rs. 48,000 crores by the union government, a cumulative amount released as per the Budget Estimates (BE), from FY 2015–16 to FY 2022–23, is Rs 41,544 crores, and the Actual Expenditure until FY 2021–22 is Rs. 28,326 crores—a deviation of 40.9 per cent from the initial corpus planned. In 2023, the union government released Rs. 36,447 crore, which amounts to Rs 8,324 crores Revised Estimates (RE) over the past year (PTI, 2023). The BE for 2023–24 amounts to Rs 7,634 crores, amounting to Rs 44,405 crores (Ministry of Finance, GoI, 2023a).

The states’ funds released compared to the Union is even poorer, they have released Rs. 5,000 crores less than the Union government in the same period. Additionally, the fund utilization rate for Union stands at 85.1 per cent while for states it is 62.4 per cent. The funds utilization rate of Union funds is much better when compared to states. 62 cities have utilized more than 80 per cent of the Union’s funds, while for states, only 20 have done so. Moreover, 17 cities have utilized less than 20 per cent of the state’s funds. In contrast, none of the cities have a Union Government’s funds utilization rate below 20 per cent. Interesting to note that utilization rates can appear higher when the amount released is lower. For instance, Itanagar has received Rs 151 crores from the union and Rs 36 crores from the state. The city boasts 100 per cent state’s funds utilization (i.e. Rs 36 crores), while it has utilized 59.6 per cent of the union government (Rs 90 crores).

The state’s funds utilization may have lagged behind due to time mismatch between when the funds were required and when they were released, or lack of need for these funds because of delays. The cause underlying this stark difference becomes less transparent when one learns that while data on the union’s funds provides for three steps— Funds released by the Centre, Funds transferred to the Special Purpose Vehicles (SPV) and Funds utilized; data on states only shows funds released by the state and funds utilized. This omission of data on state funds transferred to SPV is not helpful in excusing whether the funds had not reached the concerned SPV or whether the issues stemmed from delayed project execution.

A lot of pressure has been on states since some states have multiple cities selected under the mission—Tamil Nadu has 11 cities, UP has 10, Maharashtra has 8, Karnataka and MP have seven each, and Gujarat has 6. Under Jawaharlal Nehru National Urban Renewal Mission (JNNURM), an urban development scheme, cities with population less than 10 lakh and north-eastern cities saw a higher contribution coming from the union government (Union:state ULB contribution in ratio 80:20 and 90:10 respectively), whereas in Smart Cities Mission, a ratio of 50:50 has been maintained across all cities.

**PRE-COVID-19 CONCERNS**

In the Fifth Report of the Standing Committee on Urban Development (FY2020–21) on Demands for Grants (FY2021–22) of the Ministry of Housing and Urban Affairs, there has been a mention of frequent dropping of projects in favor of ‘implementation of projects in targeted sectors like water, sanitation etc.’ that take lesser time as they do not demand high technical expertise in implementation. This may have helped to demonstrate a higher project completion rate but may lead to a weaker fund utilization rate— difference between project completion rate and utilization rate has been above 40 per cent for 6 cities including Thane (51.6 per cent), Shivamogga (42.33 per cent), Agartala (40.72 per cent), Ahmedabad (44.6 per
cent). Recent data for these cities is also not available since the Smart Cities Mission website shows zero for these indicators as well, for all cities.

The Revised Estimates (RE) and Actuals fell from FY 2019–20, the year before COVID-19 (COVID-19 restrictions began in March 2020). According to Second Report of the Standing Committee on Urban Development (FY 2019–20) on Demands for Grants (FY 2020–21) of the Ministry of Housing and Urban Affairs, the reason behind the huge reduction in Revised Estimates for FY 2019–20 was due to delays in operationalization of Special Purpose Vehicles (SPV) to begin project work. SPVs are the mainstay to design, finance and execute projects in each of the 100 cities.

**MUNICIPAL FINANCES & INVESTMENT APPEAL**

For some cities, the Smart Cities Proposal Cost has been disproportionate to their municipal finances. For instance, Dharamshala Municipal Corporation (DMC) had proposed a total smart city proposal cost of Rs 1,407 crores. In February 2021, it was reported that DMC had an income of just about Rs 5 crores and a budget of Rs 149 Crores. Over the seven years of the mission, the proposal cost would amount to Rs 200 crores annually, which would still be a huge outlay for the municipal corporation the size of DMC. The question of the cost of maintaining these assets after the mission is over also needs to be addressed.

Under smart cities, the ULBs were expected to contribute a quarter of the proposed total expenditure from various sources such as own revenues, local taxes, other financing mechanisms such as loans, municipal bonds, etc. While some cities maintain a good surplus and high investment credit rating, others are not able to do so. Out of the 100 cities, for which investment credit rating information was available, it has been found that 31 cities have a rating BB+ and below, which is considered as ‘inadequate’ safety. The same concerns were also raised by Prakash Gaur, CEO, Andhra Pradesh Urban Infrastructure Asset Management (APUIAML), in response to Pune Municipal Corporation and Greater Hyderabad Municipal Corporation raising Rs 400 crores, who insisted that cities rated below BBB- have to get better ratings to attract investors.

**PUBLIC-PRIVATE PARTNERSHIP (PPP)**

According to the India Investment Grid website, there are a total 180 opportunities amounting to USD 10.824 billion, which are being implemented under PPP mode across sectors such as Commercial Infrastructure, Energy, Social Infrastructure, Real Estate, Communication, Logistics, Manufacturing and more. With Commercial Infrastructure amounting to USD 9.12 billion. Under which USD 7.92 billion is accounted only by one project, the International Agriculture Marketing Infrastructure Development, which is spread across the nation. It has also been noted that the name and location of the project have been changed recently, which is now known as Infrastructure Development being carried out in Maharashtra (India Investment Grid, 2022). The project ID and project cost remain the same.

Therefore, this single project has contributed more than 73 per cent to PPP in smart city projects.

**OUTCOME BUDGET AND IMPACT**

Under the mission, City Level Advisory Forums (CLAF) were stipulated to be formed in each smart city to review projects, provide an interface between the mission and citizen demands, and advise and enable collaboration among various stakeholders. The Outcome Budget 2023–24 shows that all 100 CLAFs have been formed but also shows that only 50 meetings took place in the last financial year. The new update on the Smart Cities Mission website now also includes links to respective smart cities SPVs websites. However, a random visit to these websites for several cities showed that for several SPVs either the websites were not fully func-
CONCLUDING REMARKS

As Prem Chandavarkar mentions, ‘The definitional ambiguity on smart cities is a global phenomenon. There is scholarly literature on the subject that suggests this evasiveness is deliberate, the concept of the smart city masks an experiment to attract development capital from non-traditional sources, including admitting private investment and profit-seeking into urban governance, so ambiguity is useful as definitions can easily be shifted if anything goes wrong.’

In each city, SPVs were created as a mainstay to plan, appraise, approve, release funds, implement, manage, operate, monitor and evaluate the Smart City development projects. Questions regarding the long-term relationship between the SPVs and respective ULBs, and the resulting impact on existing structures of governance, especially given the increasing privatization of public assets and services, need to be addressed. Will the SPVs continue to own/operate and maintain these projects and will the cost of maintenance be borne ultimately by the end user, in the form of high tariffs?

It appears that the planning phase of the Mission has overestimated the actual capacities of several cities and the fault lines only become clearer as the Mission comes to a close. Across various metrics, it can be seen that the performance of cities has been asymmetrical—while some boast a good track record, others have been struggling. Considering that cities took up to 18 months to set up their respective SPVs to begin operations, five years was a rather short timeline to implement the mission, even more so, considering that city governments are financially strapped, and have limited managerial capacities and mismatch in expertise and equipment to implement such capital-intensive urban development.

This article is based on the report ‘7 years of Smart Cities Mission: A Review’, the report is available on the following link - https://www.cenfa.org/7-years-of-smart-cities-mission-india-a-review/
REFERENCES


HEALTH
India’s health financing system relies heavily on out-of-pocket payments, resulting in financial hardship for citizens. Despite claims of reduced out-of-pocket spending and increased public healthcare funding, recent trends indicate that a decline in OOP may be attributed to reduced healthcare utilization, indicating distress rather than progress. There is a fall in healthcare allocations, particularly affecting essential services and frontline workers.

India’s health system is typically characterized by fragmented financing mechanisms, where people largely pay from their pocket to meet healthcare needs. In an Out-Of-Pocket (OOP) based system when a family member falls ill we either draw from our savings, sell assets or borrow to meet health care expenditure. If one is poor, the option is to either forego care and die or get pushed to further destitution due to the costs. Children are taken out of school, women work longer hours to earn a little more, and make do with meager meals. As families cope with health shocks, the vicious cycle of poverty and ill-health continues.

While we aspire to become global leaders in economic parameters, in reality we are among the laggards in the world in terms of our health situation. Particularly abysmal is our public financing of healthcare. The remainder of G20 countries, barring Indonesia, spend at least ten times more in terms of per capita public spending on health. Indonesia spends three times more, compared to us. Among 55 low middle income countries, we are tenth from the bottom, in terms of public spending on health as a percentage of GDP (WHO, 2021). Few countries like Pakistan, Myanmar, Cameroon, Nigeria, Haiti, Benin and Zimbabwe spend less than us—countries which are either ravaged by war, civil unrest or skyrocketing inflation. To project that we are making unparalleled and unprecedented progress, we either misrepresent data or we concoct huge celebrations for insignificant gains while sending strong rebuttals when researchers or global agencies reveal stats that exposes the poor state of affairs, drop indicators that are hard to improve from national surveys. While a lot of effort is put in for image makeover - very little is done to substantially augment public spending on health.

Annual National Health Accounts (NHA) Reports are being celebrated widely to propagate that public spending on health as per cent of GDP has increased to a historic high of 1.3 per cent of GDP—finally breaking through the 1.1 per cent of GDP mark. The report also shows that Out-Of-Pocket Expenditure (OOPE) as a share of Total Health Expenditure (THE) has nosedived to less than 50 per cent. OOPE as percentage of THE was 70 in FY 2004–05, which declined to 64 in FY 2013–14 and to 48.8 in FY 2017–18 and 48.2 in FY 2018–19. The steep decline observed between FY 2013–14 and FY 2017–18 is debatable.

Does it mean improved financial protection for people? Has OOP declined because public spending has increased and more people are using public services? An increase in public spending and decline in OOP, if actually realized, are welcome steps forward to achieve greater financial protection. However, the NHA numbers need to be carefully scrutinized before jumping into conclusions.
<table>
<thead>
<tr>
<th>Groups</th>
<th>Country</th>
<th>OOPS as percentage of CHE</th>
<th>GGHE-D as percentage GDP</th>
<th>GGHE-D per Capita in USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRICS</td>
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<td>22</td>
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<td>Russian Federation</td>
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<td>5.4</td>
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<td>China</td>
<td>35</td>
<td>3.1</td>
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<tr>
<td></td>
<td>South Africa</td>
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<td>304</td>
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<tr>
<td></td>
<td>India</td>
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<td>Bhutan</td>
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<td></td>
<td>Indonesia</td>
<td>32</td>
<td>1.9</td>
<td>73</td>
</tr>
</tbody>
</table>

Table 1: Public Spending and OOP on Health: India and Other Countries.

Source: WHO, Global Health Expenditure Database.

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Total Health Expenditure (THE) as per cent GDP</td>
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<td>3.8</td>
<td>3.8</td>
<td>3.3</td>
<td>3.2</td>
</tr>
<tr>
<td>2</td>
<td>Per-capita THE (Constant Prices in Rs.)</td>
<td>3174</td>
<td>3231</td>
<td>3405</td>
<td>3503</td>
<td>3333</td>
<td>3314</td>
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<td>3</td>
<td>Current Health Expenditure as per cent of THE</td>
<td>93.0</td>
<td>93.4</td>
<td>93.7</td>
<td>92.8</td>
<td>88.5</td>
<td>90.6</td>
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<td>4</td>
<td>Government Health Expenditure as per cent GDP</td>
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<td>1.1</td>
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<td>Government Health Expenditure as per cent of THE</td>
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<td>7</td>
<td>OOPE as per cent of THE</td>
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<td>62.6</td>
<td>60.6</td>
<td>58.7</td>
<td>48.8</td>
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</table>

Table 2: Trend of Key Health Accounts Indicators for India (2004-2019).

Source: National Health Accounts Estimates for India, various years, NHSRC, MoHFW, India.
The decline in OOP is essentially due to decline in utilization of care rather than greater financial protection.

Utilization of hospitalization services by various types of providers has changed considerably over the years. Out of every 100 out-patient visits in rural areas, more than 67 took place in various types of non-government facilities. However, this is a decline from 72 in 2014 and from 78 in 2004, meaning that over the years, an increasing proportion of people are depending on government facilities (Figure 2). In urban areas, overall utilization of government facilities is less as compared to rural areas, but there seems to be a gradual decline in the utilization of government facilities in urban areas since the last NSSO round (Indranil et al., 2022).

Experience of various developing countries suggests that as public spending on health increases, services in public facilities improve and utilization of care increases as there is always a lot of latent demand for healthcare which was hitherto unrealized as people couldn’t afford healthcare. With increased public investment as healthcare becomes cheaper, people tend to access care more. Since it is very unlikely that peoples’ need for healthcare has declined, and current THE hasn’t increased much, a decline in OOP could be due to lower utilization of care—a sign of distress rather than a cause of celebration.

The NSSO survey happened just after six months of demonetization and almost at the same time when GST was introduced. Disastrous consequences of the dual blow of demonetization and GST on purchasing power of people are quite well documented. As purchasing power declined, healthcare would have become more unaffordable, forcing people to forgo care, which could have led to decline in utilization and OOP. Rather than a trend worth celebrating, we should ponder how to address this deep rooted misery of people. This is the first time that the hospitalization rate has declined in the last four decades.

\[1\] NHSRC (2023). National Health Accounts, NHSRC, GoI
In a recent study, we tried to compare NSS estimates with other comparable large national surveys like LASI\(^2\) and CMIE-CPHS\(^3\) (Indranil et al., 2023). Our findings show that NSS-Health 2017–18 hospitalization rates for persons aged 45 years or more, are lower than those reported in LASI 2017–18, indicating certain limitations with the NSS 2017–18 in capturing hospitalization rates. A comparative analysis of data from NSS-Health 2017–18 and CPHS-CMIE 2018, OOP has in-

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\(^2\) The wave I of Longitudinal Ageing Study in India (LASI) has been conducted during the same period as NSS-Health 2017–18 (75th round). LASI captures the socio-economic and health characteristics of Indians aged forty-five years or more including their spouses.

\(^3\) Consumer Pyramids Household Survey-Centre for Monitoring Indian Economy (CPHS-CMIE), twelve monthly rounds-January to December 2018 are combined to generate the estimates.
increased considerably between 2014 and 2017–18 as per CMIE-CPHS estimates, while NSS shows a decline. This suggests that the NSS-Health 2017–18 data has limitations with regards to reporting hospitalization rates and representing the health spending by the top deciles, which may have underestimated OOPE.

**UNPACKING THE STORY OF INCREASED PUBLIC SPENDING**

We have shown earlier that public spending on health is lower compared to other comparable countries. But is it increasing over time? If so, to what extent? Can this increase be credited for the decline in OOP? The Union Government traditionally spends around a third of the total government spending whereas the majority is borne by the states. The increase shown in NHA 2017–18 is largely due to increase in Union Government expenditure.

The percentage of GSDP public spending on health by state governments has increased steadily between 2004–05 and 2020–21. In fact, state spending nearly doubled as a percentage of GDP from 0.49 per cent in 2004–05 to 0.89 per cent in 2020–21. However, Union government spending has declined since 2009–10 from 0.32 per cent to 0.23 per cent in 2015–16. Though we observe some increase since then, yet by 2019–20 it was only 0.32 per cent, the level achieved in 2009–10.

Globally, when health spending is compared across countries, only current expenditure is captured, as we have done in Table 1. However, India’s NHA report does not report current public spending on health as a percentage of GDP deliberately. It reports only total public spending (Row 4 of Table 2), which includes both current and capital expenditure. If we take out the capital expenditure, current government expenditure comes down to only 0.98 per cent of GDP for 2018–19 (Row 5, Table 1). There is a problem in accounting capital expenditure within the NHA framework. An equipment brought or a hospital built serves for many years, so the expenditure incurred is used for the lifetime of the capital created and use is not limited to that particular year in which expenditure is incurred. Counting the capital expenditure for a specific year leads to severe over-counting. Considering this, the World Health Organisation proposes to leave out capital expenditure from health accounts estimates.
(OECD, 2017). However, in NHA estimates in India, in order to show higher public investment, capital expenditure is included, thus Indian estimates become incomparable to other countries.

The same happened for the year 2017–18 NHA. As depicted in Table 2, for 2017–18 government health expenditure suddenly increased to 1.35 per cent of GDP. The share of Current Health Expenditure (CHE) has gone down to 88 per cent of THE compared to 92.8 per cent in 2016–17. The government expenditure share of CHE has come down to 71.9 per cent compared to the 77.9 per cent a year back. Much of this increase has actually happened on account of tripling of expenditure of Defense Medical Services (DMS) largely due to capital expenditure. Compared to an expenditure of Rs 10485 crores in 2016–17, it increased to Rs 32118 crores. During this period, expenditure on the National Health Mission increased only by 16 per cent to Rs 25465 crores. Though the increased spending for the health of defense personnel is a good thing, such spending doesn’t benefit common people. Clearly, the health of women in the reproductive age-groups and children below five years of age who constitute a third of our population, have been accorded less priority compared to around 64 lakh families covered under the DMS.

**RECENT TRENDS IN UNION BUDGET**

In the recent budgets, particularly in the post-COVID-19 period, the Union Budget on Health has declined in real terms. In the 2023–24, the Union Budget allocations to the Ministry of Health and Family Welfare and other affiliated ministries declined by two per cent in real terms compared to previous years. In the previous budget also there was a seven per cent decline in real allocation. This means that the care that could be provided in 2019–20 cannot be ensured now, given that allocations have declined while prices have skyrocketed (JSA, 2022).

This also means that priority accorded to the health sector in the Union Budget has also declined. Share of Health in the total budget has declined from 2.26 per cent to 2.06 per cent compared to previous years. This shows the lack of intent of the Union Government to spend on Health, while policy pronouncements and rhetoric going around in the political circles portray the incumbent as very committed to improving the health of the people.

But if we dissect the budget a bit and try to identify which schemes and programmes have received cuts and which have not, the government’s priorities become apparent. Schemes which contribute to strengthening the public system and protecting the health of the most vulnerable sections of the society, like the National Health Mission, Pradhan Mantri Swasthya Suraksha Yojana (PMSSY), Schemes on nutrition and health research received severe cuts. In contrast, schemes to promote commercial interests—like the Pradhan Mantri Jan Arogya Yojana (PMJAY), the Digital Health Mission, the Central Government Health Scheme (CGHS)—are being rewarded with higher allocations despite their failures.

National Health Mission (NHM) is the key programme through which the Union Government intervenes in improving primary and secondary maternal and child health, disease control programmes and non-communicable diseases. Many of these services have suffered during the lockdown. However, since 2018–19, NHM allocations have declined in real terms. This means that essential services like safe deliveries, vaccination for children, treatment of TB provided earlier cannot be provided anymore with current limited resources.

NHM money also goes into paying remunerations for frontline health workers like ASHAs, mostly women—who received global recognition for their stellar role during the pandemic. Cuts in NHM budget means reduced budget for paying these workers, who have been demanding mini-

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mum wages for a long time. As the NHM agenda needs to gradually shift towards non-communicable diseases, it needs more Union allocation.

PMJAY seems like the spoiled child of the current government—even though it fails to deliver continuously, half of the budget remains unspent, known to largely benefit the private sector and exclude the most marginalized, it is rewarded with higher allocations. In the 2021–22 budget Rs 6400 crores was allocated, only Rs 3115 crores could be spent. Despite that allocation has been further increased to Rs 7200 crores. One of the biggest gains in allocations has been received by the Digital Health Mission—from Rs 200 crores allocated in the previous year, ABDM budget has increased to Rs 341 crores for 2023–24, almost 70 per cent increase in one year. Even though a large part of the budget allocated last year is unlikely to be spent.

To sum up, there is very little to celebrate so far as the health financing situation in India is concerned. Increases in public spending remain sluggish, with our levels of spending remaining lower and largely inadequate when compared to other countries. Recent trends in public spending shows that the Union Government spending on health has declined in real terms and some of the key schemes and programmes like NHM has received significant cuts. Even though NSS estimates are showing a decline, this cannot be interpreted as a positive sign necessarily, as there is a decline in utilization rate, which could represent hardship faced by people post demonetization or there could be problems with NSS estimates. Other estimates suggest that OOP could have increased in this period.

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Over the last century, crude oil price has had a significant impact on the global economy, and has been a key factor in many geopolitical decisions. Countries have gone to war for control of this fossil resource. The oil industry has consistently been one of the most profitable industries and countries with vast deposits of oil have generally seen significant growth and prosperity. On the contrary, countries like India which are dependent on oil imports have had to suffer not only current account deficits that have accumulated over decades but also economic shocks for events outside their sovereign borders.

To make fossil fuels affordable for the public, successive Union Governments have provided subsidies. One of the first fossil fuels to be subsidized in India was kerosene—it has been used in households for lighting and cooking. Kerosene has also been included in the Public Distribution System (PDS) along with food grains and other essentials, though the subsidy by the Union Government has been withdrawn from FY 2021–22 (PTI, 2021). Along the same lines, petrol price was deregulated in June 2010 and diesel prices in October 2014, which meant the end of subsidy on these two fuels too. Now only liquified petroleum gas (LPG) continues to be subsidized but this has also seen a reduced allocation in the Union Budget year on year. It is important to note that while the subsidy on petrol and diesel has been scrapped in the name of price deregulation, the price of these fuels has remained unchanged since 21 May 2022 (Anand, 2022), even though the price of the Indian basket of Crude Oil has reduced from USD 109.51 in May 2022 to USD 74.98 in May 2023 (a drop of 31.5 per cent) (Petroleum Planning & Analysis Cell, 2022). This is a clear indication of continued government control over the price of these fuels.

From being a drain on the government resources in the form of high subsidy bills earlier, in the last decade both petrol and diesel have become revenue generators for the Union and all state governments. This is the reason why both fuels have been kept outside the ambit of Goods and Services Tax (GST), and only alcohol and tobacco attract higher tax rates than them across the country. On a base price of Rs 57.15 per litre, petrol has net Union Govt taxes of Rs 19.9, which translates to 34.8 per cent and along with Delhi state Govt taxes of Rs 15.71, the total tax rate on petrol is more than 62 per cent (as on 1 April 2023) (iocl.com, 2023). Similarly, diesel has net Union Govt taxes of Rs 15.8, which translates to more than 27.3 per cent on its base price of Rs 57.94 and along with Delhi State taxes of Rs 13.11, the total tax rate on diesel is close to 50 per cent in the state of Delhi (iocl.com, 2023). Further, several State Govts impose higher taxes on both these fu-
Higher taxes on what is an essential commodity have helped the Union Govt shore up revenue at the expense of common citizens and contributed to the steep rise in inflation which hurts the poor disproportionately (Thomas Isaac, 2022). The Standing Committee on Food, Consumer Affairs and Public Distribution (2020–21) examined the subject ‘Price Rise of Essential Commodities – Causes & Effects’ and among other things suggested that the taxes levied on petrol and diesel are on a higher side and need a revision. As was expected, the government took no steps on this suggestion (Verma, 2021).

One of the commitments made by India for the Paris Agreement 2015 was the levy of higher taxes on petrol and diesel. Page 7 of ‘India’s Intended Nationally Determined Contribution’ document states ‘Policies to promote actions that address climate concerns also include fiscal instruments like coal cess, cuts in subsidies, increase in taxes on petrol and diesel...’. The Union Govt has consistently achieved the goal of high taxes on petrol and diesel in the last 5–6 years. The government has imposed the taxes even though there is evidence that suggests that the fuels fall in the category of ‘price-inelastic goods’ (Rampal, 2021). This means that the fuel consumption doesn’t change based on prices because it’s an essential commodity with no practical substitutes. This implies that in the short to medium term, the consumer neither has a choice nor can stop or defer its use. So even if high taxes are imposed, it will not translate into any significant impact on greenhouse gas emissions caused by the fuels since the consumption level stays unaffected. The only practical way to meaningfully reduce emissions is by providing affordable alternatives.

Apart from the retail taxes imposed at the pump, other taxes are imposed at different stages, like cess and royalty on crude oil, import duty, GST on petroleum products like lubricants, etc. All of the taxes together contributed Rs 25.7 lakh crores to Union revenue in the period 1 April 2014 to 31 December 2022 i.e. a little less than 9 years. The contribution of Rs 4.32 lakh crores in FY 2021–22 (the last full year for which the data is available at the time of writing this article) was 24 per cent (or close to a fourth) (Petroleum Planning & Analysis Cell, n.d.) of the Union’s net tax revenue (actuals) of Rs 18.05 lakh crores for that year (Ministry of Finance, 2023). In addition to these indirect taxes, the government imposes direct taxes on profits of petroleum companies and collects dividends from oil public sector undertakings (PSUs) which added another Rs 60 thousand crores in FY 2021–22 and Rs 4.67 lakh crores in the 9 years since 1 April 2014. More than 90 per cent of the revenue mopped-up from the indirect taxes is in the form of cess and surcharges, and so it is not put in the divisible pool and not shared with the state governments (Pathak, 2022). This is a departure from earlier practice of keeping a higher share of this revenue in divisible pool which benefited both the Union and state governments (for e.g. till April 2017, 44 per cent of the excise duty on petrol was kept under divisible pool, but in April 2021 this has been reduced to only 4 per cent).

While the government has been making record revenue from the sale of petroleum products, the public sector oil marketing companies (OMCs) have been making record losses. In March 2023, Minister of State (MoS) for Petroleum & Natural Gas Mr. Rameswar Teli informed the Rajya Sabha that Indian Oil Corporation (IOCL), Bharat Petroleum Corporation (BPCL) and Hindustan Petroleum Corporation (HPCL) have cumulatively posted a loss of Rs 18,622 crore during the period April–December 2022 alone (BL New Delhi Bureau, 2023). The government claims that this is due to the volatility in the price of crude oil in the international markets. While it is true that the international prices have a large impact as India imports more than 85 per cent of its crude oil requirement, the above data clearly shows that the losses booked by the PSU OMCs is due to the levy of skyhigh taxes and the continued price control by the Union Government.

It is noteworthy that while the retail taxes at the pump for the common man have remained high and unchanged since May 2022, based on the change of crude oil price in the international
markets, the windfall gains tax on the companies has been revised several times since July 2022. This benefits private refiners, Nayara Energy and Reliance Industries which have been buying a higher proportion of discounted Russian crude and making large profits by exporting the refined products (Sarkar, 2023; Reuters, 2023; Choudhary, 2023; PTI, 2022). So while the PSU OMCs are forced to sell refined fuels at a loss in India, private refiners book record profits even as they cut the domestic supplies and our External Affairs Minister defends import of Russian crude oil in the name of domestic energy security (Pathak, K. 2022).

PSU OMCs are not the only ones being squeezed of cash reserves by forcing them into loss making pricing. To reduce its fiscal deficit, the Union Government pushed oil and natural gas exploration major Oil and Natural Gas Corporation of India (ONGC) to acquire its entire stake of 51.11 per cent in HPCL in January 2018 (Moharkan, DHNS, 2020). In August 2017, ONGC also had to purchase the Gujarat State Petroleum Corporation’s stake in the KG Basin gas block. These acquisitions resulted in ONGCs working capital slipping into negative zone and the cash balance was at ‘alarming’ levels, a first in the corporation’s history (Nair, 2019).

As one can well imagine, no article on fossil fuels and the Indian Government can be considered complete without a mention of Adani. Apart from the concessions given to them in coal, they were also provided the opportunity of forming a 50:50 joint venture (JV) with the largest PSU OMC, IOCL to form IndianOil-Adani Gas Pvt. Ltd. (IOAGPL, n.d.). IOAGPL’s business of supplying compressed and piped natural gas (CNG & PNG) is highly capital-intensive in nature and has envisaged capex of around Rs. 7,600 crore till FY27. This capex plan is envisaged to be funded through a debt equity mix of 67:33 (CareEdge Ratings, 2022). IOCL has a vast domestic network and decades of experience supplying LPG, petrol and diesel to the remotest parts of the country. IOCL has also maintained a consistently high cash reserve over the years (Money Control, n.d.). So the obvious question that comes to mind is why did they need to form a JV with a relatively inexperienced player who does not bring any additional value to the table? Is it to provide Adani with a new business avenue to shore up a positive image and improve the valuation of their enterprise? Not surprisingly, in October 2019, Adani Gas sold a 37.4 per cent stake to the French oil and gas company, TotalEnergies, making millions of dollars for the promoters.

It is clear from the data that the government is fleecing the poor to shore up tax revenue, both to manage the fiscal deficit and spend on large infrastructure projects. These projects like the bullet train or eight-lane expressways are unlikely to benefit the poor, but are effective tools for election propaganda. High inflation, fuelled in large part by higher taxes on diesel and petrol, coupled with lowering household income and record high unemployment has resulted in a decline in private consumption as a percentage of GDP (Tandon & Bansal, 2022). Alternatively, the Union Government could have achieved a higher tax revenue by imposing a mere 2 per cent wealth tax and 50 per cent inheritance tax on the top rich 1 per cent (Tax the Top 1%, n.d.). In a democracy, it seems ironic that the government has the political will to tax 99 per cent of the population with regressive indirect taxes, but refuses to even debate a progressive direct tax on a mere 1 per cent super-rich.

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TAXATION

TAX THE RICH!
Spend the money on public welfare!

EQUALITY! JUSTICE! RIGHTS!

TAX
DECODING THE INDIAN TAX SYSTEM

Prasanna Mohanty

The Indian tax system is regressive and disproportionately burdens the poor. It heavily relies on indirect taxes, such as the GST, while only a small percentage of the population pays income tax. This system perpetuates fiscal crises, income inequality, and hinders social welfare and human development. This chapter highlights how reform is urgently needed.

INDIA’S SKEWED TAX STRUCTURE IS AN ENDURING CURSE ON ITS PEOPLE AND ECONOMY

Current taxation policies fester fiscal crisis, limit spending on human development and social safety and also put higher burden on poor.

For the past 42 years between 1980–81 and 2021–22, for which the Reserve Bank of India (RBI) provides relevant data, the Indian tax system remains regressive with indirect tax leading the way. Given that higher incidence of indirect tax violates the cardinal principles of ability-to-pay and equity in taxation and shifts the burden to the poor, this system should have been discarded long ago. But going by the premium put on indirect tax, the Goods and Services Tax (GST) which subsumed eight central and nine state indirect taxes in 2017, and the simultaneous thrust on lower tax on corporations and High Net-worth Individuals (HNIs), in the guise of ‘ease of doing business’ in recent years, it is unlikely to happen anytime soon. In an economy of skyrocketing inequality, this trend also means perpetuation of the fiscal crisis by severely limiting financial resources to invest in growth and development.

FOR GENERAL GOVERNMENT, INDIRECT TAX CALLS THE SHOT

Analysis of the RBI data shows that for the first 20 fiscal years from 1980–81 to 1999–2000 the gap between direct and indirect tax of the general government (central and states) averaged –8.9 (GDP) percentage points. It was reduced to -4.3 in the next 20 fiscal years, touching a low of -2 in 2009–10, and then widened again to touch -5 in FY22.¹

Going by the 10 fiscal years between FY13 and FY22, the ratio of direct tax-indirect tax for the general government stands at 37:63—reverse of the The Organization for Economic Co-operation and Development (OECD) average of 68:32 in the past five years (OECD, 2022).

As a result, India’s tax-to-GDP remains below par, at 12–18 per cent during 1980–81 to 2021–22, peaking at 17.9 per cent in FY08.² This is despite the demonetization of 2016 and GST of 2017, both of which were supposed to increase tax efficiency and base. The OECD average, in sharp contrast, is 33 per cent in the past five years (OECD, 2022).

An abysmally small number of Indians pay income tax. Going by the official data between FY13-FY18, an average of 5.2 per cent of population file tax returns.³ How many actually pay tax is not known as such data is never disclosed. What little is known from official accounts is shocking, nevertheless.

¹ RBI: Direct and indirect tax revenue of central and state governments
² Author’s calculation based on RBI data
In 2018, then Finance Minister Arun Jaitley said in his budget speech that for the assessment year of 2016–17 (fiscal year of 2015–16): (i) Salaried individuals paid almost three times more tax, on average, than individual business taxpayers, including professionals—average of Rs 76,306 for salaried against Rs 25,753 for individual businesses and (ii) salaried class outnumbered business class in filing returns—18.9 million against 18.8 million. In September 2020 Minister of State (MoS) Finance Anurag Thakur confirmed to the Lok Sabha that ‘only 1 per cent of the population in India is the direct taxpayer’ (Lok Sabha, 2020).

The disaggregated income tax data contains more shocking information. During the first four years of the Modi regime, from assessment year (AY) of 2015–16 to 2018–19 (up to which such data is available), 68.4 per cent of returns, on average, declared income up to Rs 5 lakh; 31 per cent declaring above Rs 5 lakh and only 10 per cent above Rs 10 lakh. The Global Wealth Reports of Credit Suisse shows, India had 7.25 lakh and 9.12 lakh dollar millionaires (physical and financial wealth) in 2018 and 2019. Assuming that their annual income was just 10 per cent of their wealth, this would mean Rs 70 lakh. But tax data for AY 2018–19 shows just 29,002 individuals declared income above Rs 50 lakh—far below 7.25–9.12 lakh dollar millionaires around the time. This huge gap indicates massive tax evasion and a bad tax system.

**FOR CENTRAL GOVERNMENT TRENDS CHANGED OF LATE**

Unlike the uniform trend for the general government, the central government’s taxes witnessed a change between 2007–08 and 2019–20 when, except for 2016–17 and 2020–21, direct tax overtook indirect tax.


A separate study is needed to understand why the overtaking happened. The role of uneven growth since 2008–09 and frequent changes in taxation would have played key roles, nonetheless. Some of the tax changes are drastic:

1. Income Declaration Scheme of 2016 and 2017 brought in undeclared income; demonetization brought cash from home to banks, revealing undisclosed income and GST entailed infor-
mal enterprises shifting to the GST regime to claim 'input tax credit' (Ibid.);
2. Import tariff increased since 2014 to push and protect domestic manufacturing (import tariff on non-farm inputs and intermediaries went up by over 50 per cent) and prevent price crash in domestic farm produce (WTO)—reversal of three decades of trade liberalization;
3. Wealth tax abolished in 2016;
4. Corporate tax slashed in 2019, from peak base rate of 30 per cent to 22 per cent for existing and from 18 per cent to 15 per cent for new manufacturing (without claiming exemptions) (Ministry of Finance, 2020);
5. Oil tax went up 2.3 times during 2014–15 and 2021–22 when Brent (crude) prices fell from over USD 100 a barrel in the three previous fiscals to average of USD 62 during the later period (PPAC);
6. New income tax regime (without exemptions) was introduced in 2020—in which peak base rate is 30 per cent for income above Rs 15 lakh (which is higher than peak corporate tax) and
7. Production-linked incentive (PLI) scheme was introduced in 2021 to promote manufacturing in critical areas (Mohanty, 2022).

The budget documents show that the central government’s tax-to-GDP ratio peaked at 11.2 per cent in 2016–17 and 2017–18 (in the 2011–12 series). It crashed to 9.8 per cent in 2019–20, recovered to 11.4 per cent in 2021–22 but is estimated at 11.1 per cent for 2022–23 (RE) and 2023–24 (BE).

INVERSION WITHIN CORPORATE AND PERSONAL TAX

Even within direct tax (corporate and personal income tax rates) there is inversion.

That is, larger companies making higher profits pay less tax and individuals earning less pay proportionately more tax (as Jaitley had said in 2018).

The latest budget shows ‘effective tax rate’ for 2020–21 for companies making higher than Rs 500 crore of Profit before Tax (PBT) was 19 per cent, while those making PBT of Rs 0–1 crore is far higher at 24.82 per cent; for those in between, effective tax remains higher too (22.4 per cent to 23.1 per cent). Budget documents have flagged this for years, stating that this is because larger and higher-profit making companies ‘are availing higher deductions and incentives’ and yet nothing changes (Receipt Budget, 2023).

The revenue foregone disclosures have undergone drastic change. It was renamed ‘revenue impact of tax incentives’ in 2017–18 and split into ‘conditional’ and ‘unconditional’ foregone; ‘unconditional’ ones are not counted on the ground that this is because of certain policy imperatives. The revenue foregone has fallen from over Rs 5 lakh crore in previous years to less than Rs 1 lakh crore in later years.

The budget for 2023–24 proposes another tax relief to HNIs. Maximum surcharge on income has been reduced from 37 per cent to 25 per cent, thus, cutting down maximum income tax rate from 43 per cent to 39 per cent. Revenue Secretary Sanjay Malhotra said this was to stop high exodus of HNIs (Yadav, 2023). Their exodus has risen from 4,000 in 2015 (Mohanty, 2021) to 8,000 in 2022 (Henley & Partners, 2022). Many are known to have fled after committing financial frauds and gobbling up loans from public sector banks (PSBs) (Mohanty, 2020).

UNDESIRED CONSEQUENCES OF SKEWED TAXATION

As far as the central government’s finances goes, the regressive taxation spells three severe consequences: (a) ‘fiscal crisis’ continues (b) tax burden remains on the poor and (c) social sector spending is curtailed.

The latest budget documents show the central government’s tax-to-GDP ratio remains low, in the range of 10–11.4 per cent since 2013–14. Often disinvestment and privatization of public assets are pushed to generate additional resources and yet, not only this has failed to meet its targets year after year (Mohanty, 2022), fiscal deficit remains elevated, averaging 5 per cent of GDP in 10 fiscal years running, and at 6.4 per cent of GDP.
The capex push is more on railways, roads and defense production—accounting for 66 per cent of the capex push (Kapur et al., 2023). Low spending on education and health has long persisted, assuming structural and systemic characteristics of central budgets.

THE ‘WHYS’ OF SKEWED TAXATION

The reforms of mid-1980s and liberalization of 1991 have sought to push industrial growth by giving more tax incentives to industry (tax holidays, export incentives, SEZs, industrial clusters, import credits etc.). Private sector has been given more space and support to grow. In 2015, the Modi government officially recognized that India was going through ‘premature deindustrialization’, thereby making a strong case for ‘Make in India’ (India Budget, 2014–15). Later, corporate tax cut (which caused a loss of Rs 1.84 lakh crore in 2019–20 and 2020–21) (Mohanty, 2022), ‘AatmaNirbhar Bharat’ and PLIs followed.

But little has been done to tackle tax avoidance and evasion, which keeps tax revenue low. For example, more than 80 per cent of FDI inflows and outflows are routed through well-known tax havens like Singapore, Mauritius, the Netherlands, the US, the UK, Cayman Islands, Cyprus etc. (Mohanty, 2022). Shell companies, which facilitate flows of untaxed and unchecked finance, have tumbled out of woodwork every time a financial scam is unearthed (Mohanty, 2020) and yet, Indian laws don’t even define what a shell company is, much less act tough against them or check tax havens connections.

The budget documents also show the growth in corporation tax—on entities who can pay more—is 10.7 per cent between 2015–16 and 2022–23 (RE). This is lower than that of gross tax revenue (12.3 per cent), income tax paid by individuals (16.1 per cent) and GST (15.1 per cent), during 2018–19 and 2022–23.

Such trends are intrinsic to a tax system which spares those who can pay for whatever reasons (neoliberalism or politics-business nexus or corruption exemplified by opaque Electoral Bonds) and relies on indirect taxes to manage public finance.

Low financial resources mean low spending on social welfare programmes providing social safety to the poor as well as human capital development like jobs/livelihoods, health, nutrition and education. Budget analysis by data portal IndiaSpend shows social sector spending (health, education, skill development, women and child welfare, rural development, water, sanitation, nutrition, social safety, food security, etc.) as a share of total expenditure is budgeted at 18 per cent for 2023–24—falling below 20 per cent for the first time 2009.
To sum up then, so long as India’s tax structure is not overhauled, India will continue to face a fiscal crisis, burdening its poor with more tax as tax evasion runs rampant.

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MAKING SENSE OF WELFARE CUTS AT A TIME OF MASSIVE CORPORATE LOAN WAIVERS

Rosamma Thomas

In India, as the government announces substantial corporate loan waivers, critical welfare programmes are facing severe budget cuts. This includes nutrition, education, healthcare, and support for the working poor. Malnutrition rates are increasing, posing a challenge to the nation’s well-being. The trend raises concerns about government priorities and social development.

At a time when the people of India are still reeling from the impact of COVID-19-induced lockdown and slowdown of the economy, the special measures that were put in place to offer some semblance of social security during the pandemic are being steadily withdrawn. As India is thrust again into normalcy, here is a look at the ways in which welfare spending has faced cuts.

NUTRITION

According to the National Family Health Survey-5 data, 67 per cent of Indian children are anemic; even Burundi in Africa, with the lowest per capita income in the world, fares better when it comes to levels of anemia in the population. In 2015–16, 59 per cent children were anemic; the percentage is rising. The Anganwadi Scheme, launched in 1975, is meant to support children below six years of age, pregnant women and lactating mothers. Free non-formal pre-school education and provision of nutrition are part of this scheme. Since 2014, however, with a host of other social sector spending cuts, this scheme too has seen pruning of funds.

In Budget 2022–23, Union Finance Minister Nirmala Sitharaman announced that two lakh anganwadis would be upgraded under the Saksham Anganwadi and Poshan 2.0 programme. Mission Shakti (described as an integrated women empowerment programme) and Mission Vatsalya (including child protection and welfare services) were brought under one umbrella scheme. However, although there are now more components to the scheme, allocation was only 0.07 per cent of GDP, down from 0.13 per cent of GDP in 2014–15; total spending would thus be half what it was earlier.

This enormous cut comes at a time of greater distress, when the country was only beginning to recover from the distress of COVID-19. Besides the 67 per cent of children who are anemic, according to the NFHS, 32 per cent of Indian children are underweight and 36 per cent stunted. It is generally held that the first 1000 days of a child’s life are crucial, and the damage done by malnutrition in that time is hard to reverse. There are studies, however, that show that stunting can be reversed, with the right interventions (Georgiadis, 2014). This is the opportunity that India’s children are likely to miss, if the government does not wake up to the need for support at the right time. It is noteworthy that in Gujarat, nearly 80 per cent of the children are anemic, even though the state is held up as a model of development worth emulation, the Gujarat Model (PIB, 2022).

Another child nutrition scheme is the midday meal scheme, covering 12 crore children in government schools. There is evidence that the
scheme has led to higher attendance and better nutritional outcomes. Budget allocation for the scheme, however, was halved as a share of GDP, from 0.08 per cent in 2014–15 to 0.04 per cent in 2023–24. In 2021, the Union Ministry of Finance rejected a Rs 4,000 crore plan for providing breakfast to children in government schools, citing lack of funds (Ground Report, 2021). (Media reports indicated in December 2022 that the Modi government had spent Rs 6,491 crore on media advertisements over eight years.) (Yande, 2022). Tamil Nadu is introducing breakfast in school, and it has already shown impact—schools are reporting nearly 100 per cent attendance, and children who rush to school without breakfast at home or are too poor for a good morning meal are more fit and active (Kandavel, 2023).

Over three crore women are enrolled under the PM Matru Vandana Yojna, which provides Rs 5,000 to women in the unorganized sector as maternity benefit. If this scheme was to cover all women eligible, taking into account all births as per the National Food Security Act, researchers Fizza Suhel and Mohit Verma, in ‘Welfare Spending has been getting a Regular Pruning’ (The Hindu on May 13, 2023), estimate that Rs 14,000 crore would be required. The budget for this scheme, however, is not even Rs 3,000 crore.

What is worrying is also government priority—while the Centre’s Open Market Sale Scheme, under which excess foodgrain from the Food Corporation of India stocks is sold, has been denied to states, grains are supplied for the production of ethanol—under FCI’s 2023 policy, reserve price of rice for ethanol production was Rs 20 a kg, which was much lower than the Rs 34/kg at which rice is sold to states under OMSS. In the past two years, rice supplied for ethanol blending has soared—from 5,500 MT in April 2021 to over 2,50,000 MT in May 2023 (The Hindu Data Point, July 5, 2023).

India’s Public Distribution System represents the largest food distribution network in the world; in 1997, it was changed from a universal one that all citizens could access to a targeted system, provisioning those identified as needing such support, and covering 75 per cent of the rural and 50 per cent of the urban population. Centre for Monitoring Indian Economy has projected that food inflation would escalate; yet, little is done to bring all those in need of subsidized food under the cover of the NFSA (Kumar, 2023).

**WORKING POOR**

Lawyer Usha Ramanathan, in an interaction over an online webinar a few years ago, remarked that it is seldom even considered questionable in India that someone who works should be poor—why cannot wages be fair, so all work is rewarded with at least enough to survive with dignity? One scheme that pushed up wages in the rural sector was the Mahatma Gandhi National Rural Employment Guarantee Act, launched in 2005, guaranteeing 100 days of employment to households across rural India. Women are guaranteed a third of jobs under NREGA, and now make a majority of NREGA workers. On January 30, 2023, the Rural Development Ministry mandated that all payment for work done under NREGA would be through the digital application, National Mobile Monitoring System, throwing the system into chaos. Photographs of workers at the work site have to be uploaded to the system twice each day. Wages have gone unpaid for several months, and demand for work has not been met. Shrinking budget and mandatory digitization could sound the death knell for this programme, touted as the largest jobs guarantee and public works creation scheme in the world.

During the COVID-19 lockdown in 2020, as more workers returned to their rural homes, NREGA proved a lifeline. More work was demanded under it, representing a 43 per cent increase in the number of person days generated under this scheme (Pandharipande, 2020). Budget constraints, however, played a role even then in restricting the number of days of work that the average household got under the scheme from rising beyond 41 days, even though allocation had risen to over Rs 1 lakh crore that year.

As a share of GDP, NREGA expenditure shrank from 0.26 per cent in 2014–15 to 0.20
Making Sense of Welfare Cuts at a Time of Massive Corporate Loan Waivers

rise to at least Rs 500, they have urged, since the pension has not been revised since 2006 (TOI, 2022). Similarly, restrictions on maternity benefits and also the amount offered as widow pension must be looked into, they urge. Although the government has never acceded to these demands, which require relatively small sums in allocation, Finance Minister Nirmala Sitharaman in a reply in Parliament in the Budget Session of 2023 noted that Rs 91,000 crore of bad loans had been written off in nine months, between April 2022 and December 2022, representing default by big corporate companies (News Team, hellobanker.in, 2023).

EDUCATION

The Right to Education Act came into effect in 2010. Under the 86th amendment to the Constitution in 2002, free and compulsory education was guaranteed to children between the ages of 6 and 14, as a fundamental right. This right, however, is not translating into better education for the most marginalized. A recent analysis of the access to education by children from Scheduled Tribe and Scheduled Caste categories showed that for every 100 students on average, only 28 enrolled in school (Nidhi C and Bhattacharyya, 2023). At this rate, it is unlikely the Modi government’s target of increasing enrolment in higher education in India to 50 per cent by 2035 will be met. As a share of GDP, central expenditure on primary and secondary school education declined from 0.37 per cent in 2014 to 0.23 per cent in 2023–24. Even in Delhi, where the state government has spent a quarter of its total budget on education, results have been far from satisfactory, (Chettri, 2023) with critics alleging that government spend has gone largely towards improving school buildings, (Singh, 2023) without making a great difference to the experience of students. Under the New Education Policy, and even in previous decades, it was asserted that India would spend 6 per cent of GDP on education. India currently spends 0.41 per cent of GDP on education, while Cuba, for instance, spends over 12 per cent (Panda, 2023).

NATIONAL SOCIAL ASSISTANCE PROGRAMME

Pensions for the disabled, widows, the elderly below poverty line and families that have lost a breadwinner are all provided under this scheme. Allocation under this head too has shrunk drastically as a share of GDP, from 0.06 per cent in 2014 to 0.03 per cent in 2023. Economists have been writing to Finance Minister Nirmala Sitharaman ahead of the budget for a few years now, seeking the Centre’s share of the old age pension must be hiked—the National Old Age Pension Scheme covers 2.1 crore pensioners, and the Centre’s allocation of just Rs 300 per pensioner must
HEALTHCARE

The health of a population is not a matter of healthcare provisioning alone—over 1.5 lakh people lost their lives in road accidents alone in India in 2022. Safe and efficient public transport, easy access to good and nutritious food and clean water, opportunities for socialization and healthy cultural expression all go a long way in ensuring the health of a population. However, when people fall sick, easy access to good doctors and well equipped hospitals is key. Rs 86,175 crore was allocated to healthcare in the last budget, less than 2 per cent of GDP; and less than Rs 3000 crore was allocated for health research, with Rs 300 crore to the National Digital Health Mission.

CONCLUSION

India is headed to general elections in less than a year. The term of the Narendra Modi government has been marked by a lack of a long-term vision, and poor decision-making in the economy. The attempt has been to paint a picture of good performance, even when general citizenry has faced losses and stagnation. There is little to show that this dispensation can be held to account or forced to behave responsibly with national assets. A concerted attempt must be made to change the government and install in power a dispensation that is more sensitive to the needs of ordinary citizens.

One aspect of this government that has not been adequately studied is the relentless push for all things digital—whether digital payments through the 2016 demonetization or the digitization of payments under the NREGA Act or the digitalization of health records. There is little to show for benefits from these expensive digital interventions, and yet digitalization is promoted; whether in education, healthcare, or a host of fields requiring interface between government and citizens. Even as funds for many welfare schemes are cut, things like a Poshan Tracker app are introduced, as if that would go a long a way in helping solve the problem of child malnutrition (Ministry of Women and Child Development, n.d.). The Government of India appears to be committing funds to a host of such devices of dubious utility, and it may be worth probing who benefits from such apps, given that few of them are developed by the government’s National Informatics Centre.

In the normal course, it would be expected that as GDP grows, the share of spending on welfare too would grow proportionately. That has obviously not occurred, and the government has also ceded ground to private players in key sectors of the economy, inviting foreign institutions in the higher education sector. Is the Government of India under Prime Minister Narendra Modi being pushed to choose less efficient, more expensive options? By the end of its first term in office, the Modi government had offered tax concession of Rs 4.32 lakh crore to corporates; figures for the second term are not yet available (Varma, 2019).

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MARGINS
DIFFERENTIAL JOB CONCENTRATION AND SUB-OPTIMAL WORK CHOICES: DECODING WHY MINORITIES CONTINUE TO REMAIN AT THE MARGINS

Simin Akhter Naqvi

The text discusses how minority groups in India, including Dalits, Muslims, Tribals, Women, and Transgenders, continue to face economic marginalization due to differential job concentration, limited access to education, and discriminatory labor market practices. The data presented underscores the importance of equitable education and non-discriminatory opportunities for addressing these economic disparities.

Differential job-concentration is one of the key indicators of the degree of marginalization faced by disadvantaged population groups in an economy. Employment, as has been argued by a number of studies on welfare, both theoretical and empirical, is not only an instrument of welfare and mobility, but also an outcome variable and a desirable end in itself, whether one conceptualizes economic development as a sustained process of social inclusion and political de-marginalization or as ‘capabilities’ and ‘freedoms’. Variables like job-concentration, percentage share in skilled jobs, concentration in self-employment and overall workforce participation rates not only inform us of the biases prevalent in job-markets, if any, but also reflect on discriminatory access to education, institutional finance and well serviced living spaces. Whether and how much any population group tends to gain from affirmative action policies and social security measures is also determined by the community’s overall structural location and the degree of inclusion/exclusion experienced by members in existing institutional macro-dynamics and social security networks. In India’s context, it is important to look at the socio-economic conditions of Dalits, Muslims, Tribals, Women and Transgenders if one is to understand why, despite the government’s repeated claims of inclusion and de-marginalization, some of our largest minorities continue to be concentrated in low-skill, low-wage jobs and/or self-employment, populating only the margins of India’s economy. The question becomes even more important in the post-pandemic context, with low-wage, low-skill workers suffering a harder blow than others, widening existing inter-community work and wage-gaps.

Employment related data has consistently indicated segmentation and differential concentration of workers based on their socio-religious iden-

2 For a detailed understanding refer to ‘Development as freedom’ by Amartya Sen and ‘India and her contradictions: An uncertain glory’, by Jean Dreze and Amartya Sen.
3 ILO data shows that workforce participation for women fell to an all-time low of 19.2 per cent in 2021 in India. Following CMIE, India’s overall unemployment rate has fallen to 6.95 per cent in July 2021, compared to 7.22 per cent in January 2020. Kumar (2021) points out that female labor force participation rates fell to 16.1 per cent during the July-September 2020, touching a record low of 15.5 per cent during the April-June 2020.
tivities, both in rural and urban labor markets in India. Dalits for instance, are overrepresented in low paying, seasonal and informal jobs (Deshpande, 2011), while being under-represented in salaried jobs in the urban economy overall (Harris-White, 2003), resulting in an average per capita income of only Rs. 47,124, significantly lower than the national average of Rs. 74,000 as per 2011 Census survey data. Even in 2015, Dalits constituted only 6.5 per cent of the formal workforce (NSSO, 2015) and only 10.7 per cent Dalit households had access to bank credit, as opposed to the national average of 21.6 per cent (NSSO, 2019). Land ownership among Dalits is also much lower at 2.2 per cent, as opposed to the national average of 17.9 per cent, constituting a disproportionately high 32 per cent of the nation’s casual work force, almost twice their share in population. Muslims on the other hand are disproportionately over-represented in self-employment. According to the Sachar Committee report, the three self-employed categories (Own account worker, employer, family member) taken together, constitute about 61 per cent of the total Muslim workforce as compared to about 55 per cent of the Hindu workers (57 per cent for Muslims and 43 per cent for Hindus in urban areas). As per the National Sample Survey report on employment and unemployment situation among major religious groups in India, unemployment rates for Muslims have declined for both rural and urban categories between 2005–06 and 2009–10, though still only 30.4 per cent Muslims form the urban work force (lowest among salaried workers from all communities), and 33 per cent of all Muslims in India are still poor in 2018 (along with 50 per cent of Tribals and 33 per cent of Dalits, as opposed to only 15 per cent of the ‘Upper castes’ (Hindus) sic), indicating continuing concentration of members of the community in low income micro and small businesses and/or as self-employed. Muslims are also found to be working in large numbers in either petty crafts and trades, such as carpenters, weavers, butchers, brick kiln and construction workers or as landless agricultural laborers in the rural economy. In the rural economy, backward and low caste Muslims constitute the largest percentage among landless, while Dalits continue to be landless agricultural workers or marginal farmers cultivating for subsistence (Dreze, 2017) and women were found to be working primarily as agricultural workers living mostly either below or just above the poverty line (Dreze and Sen, 2013). In the urban economy Muslims over-populate low-paying occupations such as hawkers, vendors, construction hands, mechanics, carpenters and garbage sorters. Within the industrial sector, they are disproportionately concentrated in low tech industries such as apparel, textiles, leather, tobacco products and/or in low-skill, low-wage jobs such as handy-men, freight-workers, loaders and helpers; economically the poorest among all religious groups and comparable to Dalits, only somewhat better off than Tribals, despite comprising a much higher share of the urban population.

India’s Tribal population groups, in turn, suffer a great deal of political marginalization and lack of representation, besides socio-economic exclusion (Dreze and Sen, 2013). While geographic isolation premeditates cultural exclusion and bias, both in the rural and urban economies, inadequate access to educational infrastructure and healthcare services by these groups set up active barriers to their entry in urban labormarkets (World Bank, 2011). Despite a number of initiatives by central and state governments, under various assistance plans over the decades, tribals continue to constitute the largest section of India’s below poverty line population. The Xaxa Committee Report

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5 Findings based on the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative (OPHI)’s global multidimensional poverty index (MPI), 2018.
2014 clearly identifies livelihood, employment, education, health, involuntary displacement and migration as the major issues facing India’s tribal communities, besides long pending legal and constitutional matters. Constituting 8.6 per cent of India’s total population (11.3 per cent rural, 2.8 per cent urban), as per Census 2011, the primary economies of the tribes comprise ‘Hunting, fishing and food gathering’, ‘Shifting cultivation and animal husbandry’, and ‘Sedentary cultivation and animal husbandry’. Quoting the Xaxa Committee Report, ‘Over 80 per cent of Scheduled Tribes work in the primary sector against 53 per cent of the general population, primarily as cultivators. However, the number of STs who were cultivators declined from over 68 per cent to 45 per cent in 2001 whereas the number of tribal agricultural laborers increased from about 20 per cent to 37 per cent, demonstrating increasing landlessness among tribals.’ (ibid).

Looking at literacy and educational attainment, one finds that the overall literacy rate for the Scheduled Tribes population is only 59 per cent compared to the national average of 72.99 per cent (Census, 2011). According to the All India State of Higher Education Report 2020 students from scheduled tribes constitute only 5.6 per cent of total enrollment in higher education. A Tata Institute of Social Sciences study carried out in 2016 reports that of the total and mere 892 centrally sanctioned ‘Ashram Schools’ and 197 Eklavya model residential schools for tribal children in the country, a large number of schools were found to be spatially ‘distant’, lacking hygienic drinking water, usable toilets and electricity and were found predisposed to students facing issues related to language adaptation, cultural barriers, and gaps in contextual knowledge, besides rampant apathy by school management and teachers. According to the Hemanand Biswal Committee Report of 2014, 793 children died in Adivasi ashram shalas between 2001–02 and 2012–13 in Maharashtra alone, mainly of scorpion/snake bites and minor illnesses. No wonder, school dropout rates among tribal students have been found to be as high as 55 per cent of tribal students and 71 per cent at the secondary level.

The condition of women workers also tells a sorry tale, with the Labor Force Participation Rate (LFPR) exhibiting a long term decline, falling from 34.1 per cent in 1999–00 to 27.2 per cent in 2011–12. And even as the female LFPR rose in the recent years (19.7 per cent in 2018–19 to 27.7 per cent in 2020–21) before it started declining again (29.8 per cent in 2020–21 to 29.4 per cent in 2021–22), it continues to be significantly lower than the male LFPR of 57.5 per cent in 2020–21, and not even half of the global average of 47 per cent (2020–21). Comprising the ‘true surplus’ within India’s surplus low-skill, unemployment.


As per the Periodic Labour Force Survey report 2017–18, literacy rate among STs is 67.7 per cent and compared to the national average of 76.9 per cent. The PLFS 2018–19 report shows an improvement with literacy rate of STs at 69.4 per cent, compared to a national average of 78.1 per cent.


Despite Article 350A of the Indian Constitution which states that ‘every state must have adequate facilities to teach children in their mother tongue’, and Article 342 clearly requiring listing of the scheduled tribes so that administrative and political concessions could be extended to them.


As per the Salunke committee report, 2016, on the same subject, a total of 1057 children died in Adivasi ashram shalas, between 2001 and 2016; 584 boys, 493 girls.

As per the report of the High-Level Committee on Socio-Economic, Health and Educational Status of Tribal Communities of India, 2014, while the state has paid a lot of attention to issues of development in tribal areas, it has done so, without caring to protect them from the various elements (socio-economic and institutional) responsible for their exploitation.


Based on PLFS July 2021- June 2022 data.
low-wage workforce, women workers exhibit high ex-ante compressibility of work and wage-claims, which means the initial expansion in female LFPR post-pandemic, and subsequent contraction thereof, only confirms the counter-cyclical nature of women’s work. While 63 per cent of all working women are employed in agriculture (PLFS 2021–22), in the urban workforce (18.2 per cent) they are concentrated in extremely large numbers in domestic help and other segments of the caregiving industry and in other low skill, low wage jobs such as construction workers and hawkers/vendors or helpers thereof. Further, a very large number of women are compelled to work at lower wage rates, both controlling for capabilities and without (Indian women were found to earn 48 per cent less than their male counterparts in 1993–94, the gap having come down to 28 per cent in 2018–19, as per NSSO data), with a large number of women reporting discrimination, verbal and sexual abuse and harassment at work (with a total of 965 cases registered with the NCW in 2018 alone). A large number of both skilled and unskilled women workers also exit the workforce post-child-birth due to persistent lack of enabling factors such as flexible work-options and institutional childcare support (Mehrotra et al., 2017) and/or patriarchal social norms and gendered division of child-rearing and domestic work within the household. All this, as the humongous amount of women’s daily domestic labor and their contribution to both social and intergenerational reproduction of labor, goes unaccounted for (Menon, 2012).

Data on women’s educational deprivation is also staggering, with the literacy rate for women remaining lower than both men (70.3 5 and 84.7 per cent) and the global female average (79 per cent) (UNESCO, 2022). While overall and female school enrollment rates did go up following implementation of the RTE 2009, at the primary school level, dropout rates continued to be high, resulting in much lower secondary and post-secondary school enrollment ratios for women (Frieman et al., 2020). Gender disparities widen at higher levels of educational attainment, with more boys attending schools than girls in the age group 15–17 years and more males enrolling in undergraduate courses than women, undoing any gains made in the last few years (AISHE, 2020–21), causing overall gender gap to widen, India being the 140th of 156 countries according to the Global Gender Gap report 2021. As it turns out more girls have been pulled out of education post-pandemic and forced into marriage or domestic work, as any corresponding increase in workforce participation is missing. This results from pro-male bias in schools and persisting attitudes of son-preference, and fear of lack of returns on girls’ education by families (Gandhi-Kingdon, 2002, 2007 and Pande and Astone, 2007). With an ever increasing social acceptance of private schools as the main source of quality school education, in both rural and urban areas, the role of public investment as the primary determinant of educational outcomes goes down. This makes private family level investment in education of children the main determinant, threatening to further widen existing gender gaps, deriving from prevailing pro-male bias in private education by households (Buchmann and Hannum, 2001 and Desai, 2017).

Work and wage gaps are even higher for Dalit, Muslim and Tribal women due to the interactive and intersectional impact of poverty, gender and socio-religious exclusion faced. Facing higher female infant mortality, lower access to food and nutrition and and in the absence of adequate access to public and private healthcare and/or domestic financial re-

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17 Often only in ‘bottom of the rung’ survivalist livelihood activities, in response to any major negative income shocks to the household, as Deshpande (2021) and Deshpande and Kabir (2021) note.

18 Even as women were among the quickest to take up a large number of the newly created skilled jobs in India’s gig-economy in recent years, the percentage of such workers is very low.


20 This is in the backdrop of a total of 4,05,326 registered cases of ‘crimes against women’ as a whole, as reported by NCRB, in the year 2019, India ranking 148 out of 170 countries in the Women, Peace And Security Index in 2021 https://pib.gov.in/Pressrelease-share.aspx?PRID=1563588https://pib.gov.in/PressReleasePage.aspx?PRID=1796830
sources, women from disadvantaged social groups tend to be at the bottom of the pyramid in terms of both education and employment. For Dalit women, not only is the literacy rate lower at 57 per cent (less than 50 per cent for ST women, about 52 per cent for Muslim women, as per Census, 2011), Dalit women also die 14.6 years younger than their non-Dalit counterparts, with women from poor, rural households, five times more likely to get married before the age of 18. Muslim women, despite comparable GERs for school education, as was pointed out by the Sachar Committee Report, are far fewer in skilled jobs and exhibit a considerably lower overall LFPR, despite more Muslim women than Muslim men currently enrolled in higher education, as AISHE report, 2020–21, points out, while Muslims as a whole, stand at the bottom of the pyramid with only 19 per cent currently attending higher education institutions (Jafferlot and Kalyiarasar, 2023). While the largest percentage of Dalit women workers are employed in agriculture, more Muslim women are concentrated in self-employment, compared to their non-Muslim counterparts, the proverbial ‘Missing Muslim woman worker’, partially kept out of the job-markets by discriminatory hiring practices (Shadab, 2023), partially by discriminatory access to education and thus lower levels of employability (Basant, 2012), partially due to spatial segregation of living spaces (Jamal, 2017).

India’s transgender population, a community worse off, compared to even women from disadvantaged sections, stands at 4.9 lakh as per Census 2011, and are by far the most neglected and least talked about communities. A multi-site study conducted by UNDP among 300 respondents found that while 43 per cent of all respondents had moderate to severe depression, 84 per cent had experienced physical or sexual violence and most were found highly susceptible to HIV, drug use, alcohol addiction and suicide ideation.

According to Census 2011, average literacy rate among the trans population in India was only 56 per cent, with most dropping out at or before the secondary level of education and only 14 per cent reported having completed education up to 12th grade, according to a socio-economic assessment study of trans-women across three metropolises. Only about 2–10 per cent of trans individuals live with their biological families, the number varying greatly across states, most abandoned by parents by the age of 11. A very large number also report facing ridicule, violence and shaming at schools with 52 per cent reported having been harassed by classmates, 15 per cent even by teachers. They also face discrimination in the public healthcare set-ups and at home, besides intimate partner violence and hate crimes in public spaces; literally leaving them with nowhere to go. According to a TRANScend study, 58 per cent trans-women and 44 per cent transmen found it difficult to rent a house, due to stereotype based binary societal perceptions and discriminatory mindsets.

A study conducted by the Kerala Development Society, on behalf of NHRC found that hardly 6 per cent of all transgenders are employed in private sector jobs and/or with NGOs; with a monthly income of only 1 per cent of transgenders exceeding Rs. 25,000; with the majority of them earning between Rs. 10,000 and Rs. 15,000; the rest forced to take up low paying and hazardous employment including carpentry, sanitation work, garbage sorting, begging, sex-work and crime. This is despite the Transgender Persons (Protection of Rights) Act, 2019 clearly mandating non-discrimination and the RTE, 2009 (Right of all children to free and compulsory education).

The states of Kerala and Karnataka that have active inclusion policies do show higher educational attainment and workforce participation besides better health outcomes. Not coincidentally, Kerala also exhibits better educational enrollment and lower poverty rates for other minority population groups, including Muslims, benefiting from


affirmative action policies, as shown by NHFS-5 and AISHE 2020–21.

**THE SPATIAL MACRO-DYNAMICS OF EDUCATIONAL DEPRIVATION**

Evidence from the post Sachar Evaluation Committee Report and Right to Education data clearly show there are fewer schools in close proximity of residential areas in Muslim dominated districts, both in rural and urban India. Ghettoization of religious minorities in cities, resulting from discriminatory social mindsets and consequent entry barriers, further deprives the community of access to other civic amenities, public services and economic opportunities available outside the ghettos (Susewind, 2015 and Peer, 2016). As it turns out, differential access to publicly funded education, poor quality of education offered by public institutions, differential treatment at schools and discriminatory hiring practices and discriminatory house-renting, all contribute to differential concentration of people from disadvantaged population groups in both formal and informal labor markets (Kingdon, 2007 and Basant, 2012). Various social experiments have confirmed the role religious and caste identity plays in bias in job-selection (Jodhka and Shah, 2010; Artewell and Thorat, 2007).

In a primary survey of close to 500 respondents, conducted in Delhi-NCR between 2015–17, we found that in the absence of adequate access to both, private and public quality education, a large number of youth living in ghettos either drop out after school itself and engage in family occupations and/or pursue regular or correspondence degree courses from whatever private or public universities they can afford, culminating in lower wages in formal employment compared to their non-ghetto dwelling, non-Muslim, non-Dalit counterparts. While only 15 per cent of middle income group ghetto-dwelling Muslims said they were living in a ghetto because of proximity to their workplace and lower house-rents, 21 per cent said they did so because of difficulty in finding accommodation outside, and 36 per cent because they feared communal discrimination and cultural rejection outside. Among non-ghetto dwelling middle income group Muslims, 45 per cent reported proximity to their workplace and house-rents as primary determinants of housing choice. Only about 4 per cent of ghetto-dwelling Muslim women were found to be employed in formal skilled jobs, 18 per cent self-employed, 56 per cent not-working due to domestic responsibilities and familial restrictions. Of all Muslim women in the sample, 12 per cent (hijab-wearing) and 20 per cent (non-hijab-wearing) reported having faced difficulty in finding jobs due to their religious identity. As opposed to this, 6 per cent of non-ghetto dwelling educated Muslim women from the middle income group were found working in formal jobs, 46 per cent not working due to domestic responsibilities and familial restrictions, while 33 per cent reported having faced difficulty in finding jobs due to religious identity. Muslims, both men and women, also displayed the largest gaps in expected and prevailing wages, the difference larger at higher levels of income and education.

In an old regression with log of wages as the dependent variable, age, education, father’s education (both measured as number of years of education), hours worked (per day), gender, caste (represented by the binary dummy, Dalit/non-Dalit), religious identity (represented by the binary dummy, Muslim/non-Muslim) and type of dwelling (ghetto/non-ghetto), the variables, age, education, father’s education and hours worked were found to be significant at the 5 per cent level, while, gender and caste were found to be significant at the 1 per cent level. Religious identity was found to be significant only at the ten per cent level, though Muslims were found to face a higher degree of bias (computed using Blinder–Oxaca decomposition,24 controlling for capabilities), implying the existence of job-market entry and mobility restrictions such as discriminatory hiring and lack of physical access to economic opportunities. Dalits however, exhibited larger overall wage-gaps in comparison, indicating poorer access to capability forming characteristics such as quality education, bank credit and other

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civic amenities. Notably, a significant amount of ‘bias’ was observed for all three categories, Dalits (24 per cent), Muslims (37 per cent) and women (44 per cent), with women from the Muslim and Dalit communities, at the bottom of the work and wage pyramid.

In a probit regression explaining residential choice (ghetto/non-ghetto), the variables, difficulty faced in finding a house outside, fear of discrimination and cultural rejection outside, proximity to place of work and house rents, all turned out to be significant at the 5 per cent level, implying the choice to live in a ghetto, is after all, not really a choice!

In a logit regression of Muslim women's choice of being self-employed (yes/no), regressed on age, education, type of housing (ghetto/non-ghetto), father's education, mother's education, marital status (married/not-married), family income and discrimination faced at work (yes/no); education, type of housing and parents’ education turned out to be positive and significant at the 5 per cent level, implying the choice to live in a ghetto, is after all, not really a choice!

CONCLUSION

As it turns out, while discriminatory access to education and discriminatory hiring practices are indeed significant determinants of differential job-concentration and inter-category wage-gaps, people from disadvantaged socio-religious communities often have lower wage expectations and lower hopes of finding work at the going wage rates, due to discrimination faced and feared. They also find themselves compelled to make suboptimal housing decisions due to difficulty faced in finding houses outside ghettos. The communal political onslaught and narratives of selective demonization and othering of minorities also add to existing insecurities on both the demand and supply side of the job-market. How ‘secular in practice’ and democratic any nation actually is, thus can be assessed better by looking at the social macro-dynamics of educational attainment and occupational-choice, instead of merely looking at input variables such as percentage access to electricity and water connections, even food rations for that matter, that have only a limited significance in determining long term levels of poverty and inequality. With inter-community gaps persisting, even widening in employment and education, particularly in the post-pandemic context, the Prime Minister’s Economic Advisory council’s reiteration of India being ‘A Secular Democracy in Practice’ (in the ‘A Secular Democracy in Practice: Assessment of Amenities Programs in India’ report released in April 2023), might as well still be too far-fetched and hasty. Results from analysis of localized surveys and country-wide data alike, clearly point out that any serious efforts towards inclusion and demarginalization of the disadvantaged communities in India cannot overlook the importance of ensuring fair and equitable access to education and non-discriminatory access to bank credit, housing and work opportunities. Denial of discrimination and bias prevalent in the social macro-dynamics will only lead to further institutionalization of socio-cultural oppression and economic exploitation of those on the margins. If the constitutional rights of minorities are to be upheld, there is no better place to start to accept the economic injustice and exploitation they face.

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Decoding Why Minorities Continue to Remain at the Margins


Banks play an important role in the functioning of an economy. Among other things, their role as a provider of credit is critical for economic growth. In a country like India, access to credit is not only essential for boosting economic activity but also for the generation of capabilities (Sen, 2000). In this chapter, we provide a brief account of the history of the banking sector in India post-independence and the critical role it has played in credit provision. We have chronologically identified the major phases in the banking sector: I) the nationalization phase during the 50s and 70s, II) the post-liberalization phase, III) the global financial crisis and its aftermath, and IV) the COVID-19 phase. In this context, we have tried to focus on how the credit landscape of the Indian economy has changed across the phases, and how the economy has moved from banks as the primary source of credit to other institutions such as Non-Banking Financial Companies (NBFCs), bond markets, etc.

One of the features of developing economies is that financial markets are not very well-developed, and they tend to be dominated by banks. As Chandrashekhar (2016) notes, such economies require large amounts of capital for investment in large infrastructure projects (power, communications, roads, ports, etc.) which provide economy-wide positive externalities. These projects require long-maturity loans that are relatively illiquid—something that commercial banks are not able to service. This is because commercial banks rely on deposits from risk-averse small savers with a high preference for liquidity. Corporate bond markets are also not well developed, making banks the primary source of credit.

THE NATIONALIZATION TREND: THE POST-INDEPENDENCE ERA

The history of banking in India can be divided into two phases: the post-independence era and the post-liberalization era after 1991. In the initial days of the post-independence era, all the major banks were private, which was a cause of concern as the banking services were not able to reach the rural areas. Most of the population was ‘unbanked’ and was excluded from the formal financial system. Moreover, the large private banks were focused on the urban population and the industrial centres, neglecting the needs of rural areas, small businesses, and agriculture. To solve this problem, Indian banks were nationalized in two rounds—1969 and 1980. Resources were scarce, and it required channelizing credit to priority sectors. Many development finance institutions (DFIs) were set up to provide credit to capital-intensive investments. Till 1970 this did not yield much success in terms of loan disbursements, but after 1972, the Reserve Bank of India (RBI) set up the National Industrial Credit Fund and financial assistance provided by DFIs rose to 10.3 per cent of gross capital formation in the year 1990–91.
As per RBI’s report, by the 1990s public sector banks (PSBs) had a 90 per cent share of the country’s banking business. This structure of banking, dominated by public sector banks, was able to take banking to the masses. However, it was realized that bank performance was not measuring up to international standards. Due to the nationalization of banks, huge amounts of financial resources became available for the government without any parliamentary oversight. Businesses became dependent upon the central government for funding their investment and RBI’s control over monetary policy got diluted (Reddy, 2020). To quote Reddy (2020), ‘The government, the public sector banks, and the RBI became a big joint family…no one kept account of what they were doing to each other…and the rest of the economy.’ All this paved the way for financial sector reforms in 1991.


Major financial sector reforms were undertaken post-1991. The Ministry of Finance, under Finance Minister Dr. Manmohan Singh, set up the Narasimhan Committee to look at the banking sector and come up with recommended reforms in 1991. Later, another committee, again under the leadership of Narasimham was set up by the then finance minister P. Chidambaram in 1998. To counter the set-in of fiscal dominance in the banking sector, the Narasimhan committee recommended the dilution of shareholding of the government by 30 per cent, granting autonomy to the boards of the PSBs, the synergy-driven merger of PSBs, and the abolition of dual control by the RBI and the Ministry of Finance over the control and operations of the bank.

International best practices were adopted in the form of prudential norms on income recognition, asset classification, and provisioning. Non-performing assets (NPAs) received a formal definition as assets that have stopped being income-generating for the bank and the committee recommended phasing them out. Among other recommendations, these committees lay down the method for identification of a ‘weak bank’ as

- a) if net NPAs and accumulated losses exceed the net worth of the bank and
- b) banks whose profits minus the income on recapitalization bonds have been negative for three consecutive years (RBI Report, 1999). None of these recommendations were implemented although they were accepted in principle.

Due to the deregulation, liberalization and privatization reforms in 1991, the Indian banking sector saw rapid growth in private banks and foreign banks, along with the expansion and reach of formal banking services and the adoption of computer and IT technology. The adoption of technology resulted in a tremendous expansion and reach of formal banking services of PSBs. Due to the adoption of these norms, the profitability reported by banks drastically changed. 26 out of the 27 public sector banks were reporting profits before 1991. Right after reforms were introduced, twelve nationalized banks started reporting net losses. NPAs were reported at 39,253 crores in March 1993. However, the situation did improve over the decade as Figure 1 shows.


A report on banking operations by the RBI in 2004 suggests that banking was, by 2004, able to reach a staggeringly high number of depositors. These were mostly small depositors who had ‘intense depositor loyalty’ to the PSBs.

In the early phase of the 2000s, there was an investment boom specifically in the infrastructure sector. In consonance with this investment boom, and the prevalence of fiscal dominance in the PSBs; between 2003 to 2010 the banking sector credit growth increased at a Compound Annual Growth Rate (CAGR) of 25 per cent. The figure roughly boils down to 5 times increase in the size of credit (Vardhan and Sengupta, 2020), most of which went to the large infrastructure projects. With the advent of the global financial crisis, un-
realistic expectations about demand and revenue projection, and lack of governance and regulatory oversight, the credit given to power, communications, roads, ports, etc., turned sour. This led to the post-2010 phase of recapitalization which was done to counter the increase in NPAs that was visible on the balance sheet of banks.


Post-2010, a forbearance policy was announced for the banking system to counter the impact of the global financial crisis and the continued souring of infrastructure loans. The forbearance policy was a regulatory measure implemented by the RBI to provide relief to banks facing asset quality stress due to the economic slowdown. The policy allowed banks to temporarily relax certain prudential norms relating to asset classification and provisioning, to give them more time to recover from the impact of the crisis.

However, the forbearance policy failed to address the underlying problems in the Indian banking sector. The forbearance policy allowed banks to defer the recognition of bad loans and provisioning requirements, which made it difficult to assess the true health of the banking sector. This lack of transparency undermined market confidence and made it more difficult for banks to raise capital. Moreover, by allowing banks to delay the recognition of bad loans, the forbearance policy created a moral hazard by reducing the incentive for banks to improve their credit risk management practices and address their asset quality issues. Most importantly the forbearance policy led to delays in resolving bad loans, which allowed them to accumulate and become more difficult to recover (Chari et al., 2022). This contributed to the growth of NPAs in the banking sector, which eventually became a major problem for the sector.

The build-up of bad loans in the Indian banking system led the RBI to announce an Asset Quality Review (AQR) in 2015 which led to the discovery of the massive amount of NPAs in the balance sheet of banks. A slew of measures including prompt corrective action (PCA) framework, insolvency, and bankruptcy code (IBS) were implemented to do a quick surgery. Overall, the risk aversion in the banking sector increased during this phase and led to a slowdown in credit growth.

As the banks experienced increased NPAs in their balance sheet, they re-directed their lending

Figure 1: Profitability of Banks from 1992-93 to 1998-99 (Rs. crore)

to retail loans and NBFCs instead of businesses. The share of heavy industries in banking credit went down from 43 per cent to 31.4 per cent in 2020 and that of retail loans moved up from 18.7 per cent to 27.6 per cent. The share of NBFCs moved from 4.9 per cent to 9.8 per cent in the same period (Vardhan and Sengupta, 2022).

This phase led to the rise of the bond market as a source of credit in the economy, along with that of NBFCs. The slowdown in credit to the business sector by banks was, to an extent, offset by bond issuances and credit from NBFCs. However, the default on bonds by IL&FS Limited in September 2018 and the subsequent fraud by DHFL in 2019 created panic in the bond market and led to a loss of faith in the NBFC model. The bond market became extremely skewed, with an appetite only for AAA-rated issuances by government-owned entities.

Previously, banks used to lend to NBFCs, which were directed toward micro, small and medium enterprises (MSMEs). But with the IL&FS and DHFL fiasco, banks reduced their credit extension to NBFCs which automatically led to a reduction in credit to MSME businesses.


The various sources of credit of the Indian economy were reeling; the banking sector was recovering from the NPA crisis, the bond market was recovering from the shock of the IL&FS default and the NBFCs were under a liquidity crunch because of the IL&FS and DHFL fiasco. 2020 was the advent of another unprecedented shock to the whole world as well as the Indian economy in the form of COVID-19. As COVID-19 led to stringent lockdowns by the government to prevent the spread of the disease, it also led to massive damage to the economy. Credit across all major sources slowed down. Although the government announced a slew of measures mainly channelized through the banking sector in the form of a yearlong suspension of the IBC, moratorium on the recognition of NPAs, credit guarantee schemes for MSME borrowers, targeted long-term repo operations (TLTRO), etc., but the credit growth almost halved from a CAGR of 11.3 per cent in the previous decade to 5.6 per cent. Credit growth of NBFCs also declined from 25.5 per cent to 15.1 per cent (Vardhan and Sengupta, 2022).

**CONCLUSION**

The current scenario of the Indian banking landscape showcases quite a few interesting trends. Firstly, credit growth has slowed down overall and especially in the business/industrial sector. This may be problematic as a developing economy like India requires an investment push in its industrial capacity building and large infrastructure projects, an objective that remains as critical now as it did in the post-independence phase. Secondly, although credit from bond markets has increased, this credit is skewed towards established and highly rated firms. Till bond markets can serve a broader clientele, their role as a source of capital will remain limited. Thirdly, the role of NBFCs as a source of credit, especially to MSME and the agricultural sector diminished as NBFCs have inadequate credit access. Since NBFCs often have a wider reach than banks, looking at them as a mechanism for targeted credit disbursement is critical. Fourthly, unsecured consumer credit in the form of retail loans has grown rapidly—this is one of the few areas which show promise. However, this growth is limited to the urban or the well-to-do and needs to be monitored and regulated properly.

One of the main reasons for the declining credit to the business/industry sector was the increasing risk aversion of the banking sector and the rising NPAs. Although quite a few changes have been implemented in line with the recommendation of the Narasimhan committee, like the setting up of the bank board bureau in 2016 (an autonomous body); merging of several weak PSBs, bringing in IBC and appointing National Company Law Tribunal as the adjudicating authority, setting up of National Asset Reconstruction Company Limited (NARCL) to help resolve NPAs. A clear functional role needs to be defined for each
To summarize, although there seems to be a problem in credit growth in the economy, if the changes mentioned above can be implemented systematically, with regulatory oversight then the state of finance, mainly the credit bottleneck problem, can be solved to a large extent.

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INTRODUCTION

One of the distinguishing features of the banking system in India since the last decade has been the persistence of high non-performing assets (NPAs). Despite some moderation in the recent period, its level has remained higher than what prevailed at the beginning of the last decade.

The concern for NPAs in the recent period has largely emerged from two different routes. The first route involves macroeconomic concerns for financial fragility and it highlights the implication of NPAs in what is termed as the twin balance sheet problem afflicting banks and the corporate sector. The second route includes the concerns regarding the implication of NPAs on financial health and credit disbursement ability of the public sector banks (PSBs) in specific.

While both these concerns are relevant, the emphasis of this article is on the third implication of high NPAs which has received relatively less attention. It involves an income redistribution process from public sector banks and MSMEs on one hand to the non-financial corporate sector and private banks on the other.

THE NATURE OF HIGH NPAs AND THE SPECIFICITY OF THE 2010s

The phenomenon of burgeoning NPAs was largely witnessed in the Indian economy since the beginning of the 2010s. There were at least three distinguishing features of the NPAs during this period.

Firstly, from the creditor's side, the severity of NPA problem was largely borne by the public sector banks. The specificity of PSBs is reflected in Figure 1. The figure shows the trend in the share of NPAs in gross advance of public sector banks along with that of private banks (PVTBs). While the NPA ratio for the PSBs remained lower than the PVTBs during the end of the 2000s, the former registered a phenomenal rise during 2010s and ended up registering NPA ratio at a level which is 6 per cent points higher than that of the PVTBs.

Secondly, from the borrower's side, the pattern of the NPAs registered drastic changes. Historically, the key contributor to the banks’ NPAs used to be the priority sector, where banks are required to earmark a portion of their advance to the agriculture and MSMEs under the guidelines stipulated by the RBI. The 1990s and 2000s involved the priority-sector contributing the bulk of the share in the NPAs. What was distinct about the decade of the 2010s was the sharp decline in the share of priority sector in NPA of the PSBs, as the pace of increase of NPAs in non-priority sector by far

1 The content and opinions expressed are that of the author(s), and are not necessarily endorsed by/do not necessarily reflect the views of Azim Premji University.
outstripped that in the priority sector, as shown in Figure 2. While the non-priority sector comprised around 50 per cent of the NPA of PSBs during the 2000s, its share drastically increased to about 80 per cent by 2019.

Thirdly, the phenomenal rise in non-priority sector NPAs could not be explained solely in terms of business cycles. While a business cycle-related explanation would locate the explanation of rising NPA ratio in terms of lower growth, the trend in the decade of the 2010s indicated just the opposite. Figure 3 shows the relationship between GDP growth rate and the share of non-priority sector NPA in gross advance of PSBs during the last two decades through a connected scatter plot. During the 2000s and early 2010s, the economy largely moved in the north-west or south-east direction indicating a trend which is consistent with the business-cycle related explanation. But the subsequent rise in the NPA ratio since 2013 was witnessed despite a rise in output growth rate. By 2019, the NPA ratio of the non-priority sector

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**Figure 1:** NPA Ratios in PSBs and PVTBs.  
*Source:* Database of Indian Economy, RBI.

**Figure 2:** Share of Priority Sector and Non-Priority Sector in NPA of the PSBs (Percentage).  
*Source:* Database of the Indian Economy, RBI.
borrowers whose credit limits are: (i) less than Rs. 1 crore, (ii) between Rs. 1 crore and Rs. 25 crores, (iii) between Rs. 25 crores and Rs. 100 crores and (iv) greater than Rs. 1 billion. If the relative size of the credit limit is considered as a proxy for the relative size of the gross assets, then category (iv) can be termed as large corporates, category (iii) as medium-sized corporates, category (ii) as small corporates, and category (i) as medium-sized firms. If the credit limit is considered as a proxy for the relative size of the gross assets, then category (iv) can be termed as large corporates, category (iii) as medium-sized corporates, category (ii) as small corporates, and category (i) as medium-sized firms.

ended up at a level which was higher than that of 2001, despite registering a higher output growth rate as shown in Figure 3.

Fourthly, from the borrower’s side, the higher NPAs were largely contributed by big firms. Based on a SIDBI report, the recipients of commercial loans (loans that excluded individuals or government) can be categorized into four categories of borrowers whose credit limits are: (i) less than Rs. 1 crore, (ii) between Rs. 1 crore and Rs. 25 crores, (iii) between Rs. 25 crores and Rs. 100 crores and (iv) greater than Rs. 1 billion. If the relative size of the credit limit is considered as a proxy for the relative size of the gross assets, then category (iv) can be termed as large corporates, category (iii) as medium-sized corporates, category (ii) as small corporates, and category (i) as medium-sized firms.

Figure 3: Scatter Plot between GDP Growth Rate and Share of Non-Priority-Sector NPA in Gross Advance of Public Sector Banks (Percentage).


Figure 4: NPA ratios of Firms.

Source: MSME Pulse, SIDBI and TransUnion CIBIL, various years.
and medium firms and category (i) as micro and small firms. Figure 4 shows the share of NPA in credit exposure for these different categories of firms. It was the large corporates which registered the sharpest rise in their NPA ratio during the recent period. The medium-sized corporates also registered a rise in NPA ratio, though the rate of increase was not as sharp as the large corporates. For the small and medium firms and micro and small firms, the NPA ratio remained at a far lower level than that of the large and medium-sized corporates and the trend remained more or less stable throughout the 2010s.

**NPA AND BANK BALANCE SHEETS**

Since NPAs are the forgone interest income on a given amount of loans, higher NPAs involve lower profits for banks at any given level of their assets. While there are many notions of profit, the key indicator that affects bank equities and balance sheets is the net profit. In contrast to what is termed as the operating profit, which is gross profit net of operating costs, the net profit is derived by deducting NPA and other provisions from operating profit. Operating profits depend on net interest income and operating cost of banks and exclude the adverse effect of NPAs. Net profit includes the effect of higher NPAs over and above factors that affect operating profit.

Figure 5 shows the trend in operating profit, NPA provisions and net profit of PSBs. As evident from the figure, the sharp rise in NPA provisions was associated with a similar decline in net of profits PSBs during the 2010s. What is noteworthy is that the PSBs registered negative net profit (loss) during this period despite a rise in operating profits. In other words, the decline in profits of PSBs was primarily on account of higher NPAs.

The deterioration of the balance sheet can have important implications for credit disbursement of banks under Basel norms. The latter provides supervisory guidelines for the banks in order to safeguard them from various financial risks including credit, operational and market related risks. One of the key instruments in Basel norms is the requirement for banks to maintain a minimum capital adequacy ratio (CAAR) for the banks. The CAAR is a ratio between a bank's own capital and its risk weighted assets. The bank's own capital is primarily the accumulated stock of reserves which depends on bank profits. The risk weighted assets include loans disbursed by banks. A simplistic but an intuitive way of interpreting the requirement of maintaining a minimum CAAR is to perceive it as the maximum amount of credit that banks can potentially disburse for a given amount of own capital. Over and above the level set by Basel norms, different banks can have their targeted

![Figure 5: Profit and NPA Provisions (in Rs. billion).](image)

**Source:** Database of the Indian Economy, RBI.
level of CAAR higher than the required level as a measure of safety.

For any given amount of loans disbursed by the banks, reduction in profits adversely affects the capital adequacy ratio by squeezing the capital or equity of banks. If the capital adequacy ratio falls below the level which is targeted by banks, then meeting the targeted CAAR can involve reduction in loan disbursement by the bank. The PSBs registered a sharp decline in their share in total credit disbursement of scheduled commercial banks during this period as shown in Figure 6.

The reduction in credit share of PSBs with a change in the borrowing pattern for the MSMEs. This is reflected in Figure 7, which shows the trend in shares of PSBs and PVTBs in the total credit disbursed to the MSMEs during the latter half of the 2010s. While the share of PSBs declined, that of the PVTBs increased sharply during this period. What the trend indicates is that the PSBs could meet a lower proportion of the credit requirement of the MSMEs during the period of burgeoning NPAs. Such a phenomenon can be interpreted as a consequence of credit rationing of PSBs due to deterioration in their balance sheets. For a given loan demand, credit rationing of the PSBs pushed the MSMEs to finance their loans from the PVTBs.

Such a change in the credit pattern would imply a higher effective interest rate for the MSMEs. This is because the effective lending rate of the PSBs are on average lower than that of the PVTBs. Figure 8 shows the quarterly lending rate of PVTBs and PSBs. It is evident from the figure that the weighted average lending rate of the PVTBs has been significantly higher than the PSBs throughout the period except for one odd quarter.

**THREE ROUTES OF INCOME REDISTRIBUTION**

The central mechanism by which higher NPAs have affected income distribution in India is through changes in the net income of corporates, MSMEs, PSBs and PVTBs. The net income or profit is defined as the total income net of interest payments and all provisions. While corporates and MSMEs earn income from sales, banks earn income from interest earning. There are broadly three analytically distinct routes through which income redistribution processes can be outlined.

The first route involves a redistribution of net profit from PSBs to corporates due to reduction in effective interest rate. For example, suppose that the NPA during a period is zero and a bank disburses credit worth Rs. 100 at the lending rate of 10 per cent. The interest income of the bank is Rs. 10 during this period. Now if the amount of

![Figure 6](image-url)
tor side and the big corporates from the debtor side, higher NPAs imply lower effective interest rate earned by the PSBs and paid by the big corporates.

In the midst of different interest rates across PSBs and PVTBs, the second route of income redistribution emerges due to the burden of credit rationing falling on a different set of borrowers as compared to those who primarily contributed to the NPAs. The credit rationing of PSBs compelled the MSMEs to increase their borrowing from the

Figure 7: Share of Public Sector and Private Sector Banks in MSME Borrowings (as Percentage).
Source: Database of Indian Economy, RBI.

Figure 8: Weighted Average Lending Rate in Public and Private Sector Banks (as Percentage).
Source: Economic and Political Weekly Research Foundation (EPWRF).

NPA turns out to be Rs. 40 in the next period, banks would earn interest income only on Rs. 60 and the total interest income would turn out to be Rs. 6. An alternative way of interpreting higher NPA is to perceive it as a fall in the effective lending rate since on the same Rs. 100 worth of loans the bank is now earning Rs. 6. The mirror image of lower interest income of the bank is lower interest payment made by the borrower for any given amount of stock of debt. With the NPAs largely contributed by the PSBs from the creditor side and the big corporates from the debtor side, higher NPAs imply lower effective interest rate earned by the PSBs and paid by the big corporates.

In the midst of different interest rates across PSBs and PVTBs, the second route of income redistribution emerges due to the burden of credit rationing falling on a different set of borrowers as compared to those who primarily contributed to the NPAs. The credit rationing of PSBs compelled the MSMEs to increase their borrowing from the
PVTBs at a higher lending rate. Higher effective interest rate implies higher interest payment and lower net profit of the MSMEs.

The third route involves redistribution of net profit from PSBs to PVTBs and emerges due to credit rationing done by the former. At any given lending rate, reduction in credit share of PSBs implies a fall in their relative interest income with respect to the PVTBs and vice versa.

Any attempt to reverse this redistribution process through the credit channel would involve recovery of stressed assets by the PSBs. Despite the enactment of Insolvency and Bankruptcy Code (IBC) in 2016, however, the recovery rate has remained limited so far. The laxity in the pace of recovery of stressed assets through the IBC reflects conflicting interests in the income redistribution process.
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