Insulated Wires: The Precarious Rise of West Bengal's Power Sector

Working Paper
Mapping Power Project

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Project Overview

This working paper was written as part of a collaborative research project, Mapping Power, which aims to provide a state-level analysis of India's electricity governance. The project is coordinated by Sunila S. Kale (University of Washington, Seattle), Navroz K. Dubash (Centre for Policy Research), and Ranjit Bharvirkar (Regulatory Assistance Project), and carried out by a team of 12 researchers. The research explores the views and perspectives of various stakeholders and organizations in each state and how they will be affected by new initiatives in India's electricity sector, as well as the forces and constraints that shape decision-making in electricity governance. Using data from qualitative interviews with key informants buttressed by quantitative data, the research team covered 15 states as part of the analysis: Andhra Pradesh, Bihar, Delhi, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, and West Bengal. You can learn more about Mapping Power as well as access other working papers in the series here: http://www.cprindia.org/projects/mapping-power

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Abstract

The trajectory of West Bengal's power sector since 2000 has been one of the most unusual and periodically encouraging of any Indian state. Under the centralized one-party dominance of the Communist Party of India (Marxist), it developed a technocratic, pragmatic, and statist model of power reforms in the hope of incentivizing industrialization. Rather than relying on restructuring or civil society activism, this model focused on internal changes—corporate governance, capacity building, and technology-aided process streamlining—to bolster the independence of the utilities. Until around 2011 it enjoyed impressive successes. Yet, even while improved power performance was popular, the overall pro-industrial tilt came at the cost of public support. With the ensuing change of government, performance began to stagnate. Faced with fierce party-political competition for its non-elite voter base, and operating with a less cohesive organizational structure, in its first term (2011-16) the Trinamool Congress struggled to preserve the new norm of political non-interference in the sector. Nonetheless, West Bengal continues to outperform many other states thanks to its innovative approach to building institutional resilience and, having been reelected, the government once again hopes that quality electricity will heighten its appeal to industrial investors. The West Bengal power sector thus offers a lens on the promise and limits of the technocratic, internally focused model of power reform, as well as the effects of (the absence of) party-political competition on the power sector.

Introduction

The trajectory of West Bengal's power sector since 2000 has been one of the most unusual and periodically encouraging of any Indian state.[1] Dismissing New Delhi's prescriptions with the line "one size does not fit all",[2] in 2005 it embarked upon its own adaptive mode of power reforms. This technocratic model focused not on institutional restructuring (as emphasized by the 2003 Electricity Act) or civil society activism via regulatory hearings (as in Maharashtra), but instead prioritized improved corporate governance and capacity building within an emphatically statist framework. Rather than attempting to create an arm's-length relationship between the utility and government through legislation or a grafted-on regulator alone, the intention was to strengthen the utility internally, thereby providing solid foundations for its autonomy.

Between 2006 and 2011, this model proved strikingly successful: transmission and distribution (T&D) losses and load-shedding dropped, tariffs were consistently revised, the state distribution company (discom) became increasingly efficient, and rural electrification rapidly accelerated (Figure 1). The major public and private discoms in the state both introduced increasingly automated and ambitious systems of consumer relations and data management. From annual losses of US$300 million in 2002, by 2011 West Bengal had become one of only three states to report utility profits without any government subsidy, topping World Bank performance indices.[3]

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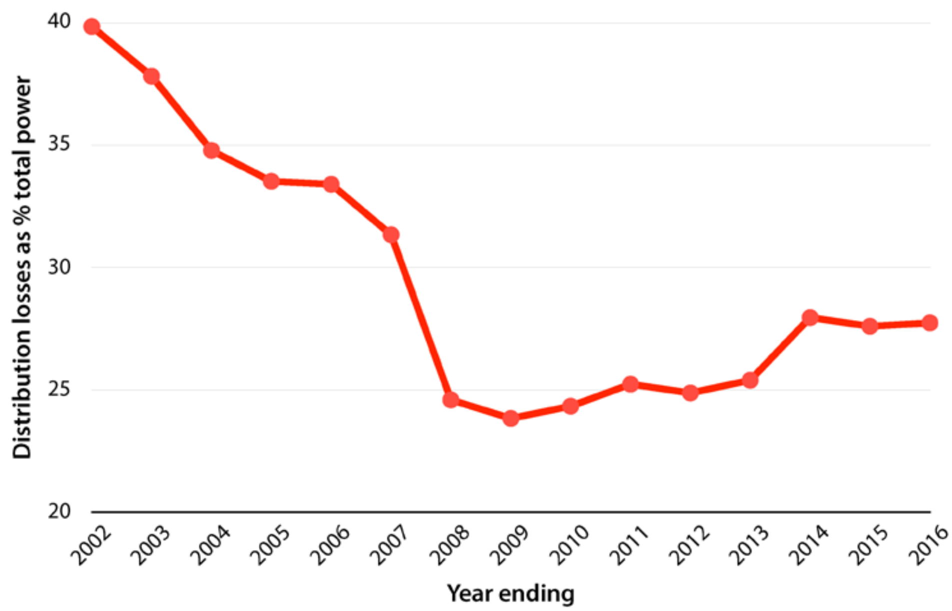
[1] This paper uses "West Bengal" rather than "Bengal" throughout because at the time of writing the state's name change had not yet been formally approved.

[2] This phrase recurred both in interviews and in assessment exercises carried out at the time; see PwC, *West Bengal Power Sector Reforms: Lessons Learnt and Unfinished Agenda*, Report 68330 (PricewaterhouseCoopers; AusAID, 2009), 16; World Bank, *India: Organizational Transformation of State-Owned Enterprises: Case of West Bengal Power Sector, Outcomes from Knowledge Sharing Workshops* (internal memorandum: World Bank, 2009), 3.

[3] Sheoli Pargal and Sudeshna Ghosh Banerjee, *More Power to India: The Challenge of Electricity Distribution* (Washington, DC: World Bank, 2014), 94.

But since 2011, the sector has become more troubled. Tariff revisions have failed to keep pace with rising costs, T&D losses are escalating once more, and the quality and morale of public sector personnel appears to have declined.[4] From promising if state-driven beginnings, renewable energy has been sidelined. Nonetheless, West Bengal continues to outperform many other states in financial and technical terms. In particular, its pragmatic decision to focus on internal utility reforms has proven a source of resilience: the discom's new operational culture and accountability mechanisms appear to have survived somewhat intact.

Figure 1: West Bengal state discom T&D losses, 2002-2016[5]



What explains this reform trajectory? First, why were power reforms initiated in this somewhat unlikely state? While West Bengal did not have to contend with the powerful farmer lobbies, it was also a poor, densely populated, nominally communist state with a long history of union activism and popular protest—hardly the obvious reform pioneer. Second, to what extent have the reform gains proved sustainable, and why (not)?

This paper argues that the fate of the power sector is inseparable from West Bengal's wider political scenario—especially the degree of party-political competition—and the economic visions its administrations have accordingly pursued. The Communist Party of India (Marxist), or CPI(M), governed West Bengal effectively unopposed between 1977 and 2011. Coupled with its centralized hierarchy and strong bureaucratic links, this one-party dominance gave it the perceived strength to court short-term

[4] Interviews with a former power sector official on August 7, 2016, and a regulator on August 12, 2016.

[5] Data from WBSEB and WBSEDCL (unbundled discom) annual reports, various years. While we might be tempted to speculate that the huge drop between 2006 and 2007 was the result of a crackdown on theft enabled by the CPI(M)'s huge election victory of 2006, T&D loss data vary from source to source and are notoriously unreliable; this is suggested by the fact that the number of losses rose abruptly by an additional 2000 due to more accurate data collection rather than increased theft. This graph should only be used to visualize broad trends.

unpopularity and tilt towards a long-term pro-industry strategy in order to alleviate the state's dire fiscal situation. Improving the electricity supply became a key pillar of this tilt. The distinctive West Bengal model of power reforms aimed to institutionalize technocratic control of the sector to safeguard its long-term economic sustainability and maintain its insulation from political interference for short-term ends.

Yet, even while improved power performance was popular, the overall prioritization of industry came at the cost of public support. After 34 years, the often lethargic but stable CPI(M) regime gave way to a Trinamool Congress administration that was both more ambitiously pro-poor and less institutionally coherent. During its first term, the new regime enacted power policy in the shadow of newly increased party-political competition. Its policymaking time horizons were shorter so, alongside accelerated rural electrification, it opted to distribute populist benefits via tariff freezes over the more predictable and industry-friendly model of technocratic, politically insulated power sector governance. Having secured a decisive second term in 2016, and with voter expectations for *quality* power rising, Trinamool may again shift back towards the insulated technocratic model.

Thus, West Bengal's power experience tentatively suggests that under increased political competition regime time horizons are shorter. In these conditions, politicians opt for the short-term dividends offered by populist tariff freezes or tolerance of electricity theft.[6] This temporarily heads off popular resistance, but over time undermines the sector's financial health. The political gains from insulation are greater in the *longer term*: technocratic management offers improved delivery for citizens increasingly sensitive to quality and helps to attract lucrative industry, in theory bringing both electoral and fiscal rewards to the administration. More secure regimes, therefore, may opt to "tie their own hands" through insulated power governance. Nonetheless, electricity cannot be seen in isolation from the broader economy; it has often found itself shaped by wider socioeconomic trends, and has not proved able to shift West Bengal onto a path of rapid industrialization in the absence of wider transformation.

The first section explains the historical background to West Bengal's power reforms. The second section analyses the origins of the CPI(M)'s distinctively technocratic mode of reform, and the third outlines the power reforms and their impacts. The paper then turns to examine the effects of the 2011 election, in which CPI(M) one-party dominance shifted to a more competitive and weakly institutionalized political scenario. The West Bengal experience thus offers both a valuable set of alternative reform principles to the model often unsuccessfully imposed from New Delhi, and a lesson about the limits of such an "island of excellence" as a driver of statewide economic reform.

[6] On the relationship between political competitiveness and politicians' spending on clientelistic policies (at least until economic growth shifts increasing numbers of voters to prefer good governance instead), see: Steven Wilkinson, "Explaining Changing Patterns of Party-Voter Linkages in India," in *Patrons, Clients, and Policies: Patterns of Democratic Accountability and Political Competition*, ed. Herbert Kitschelt and Steven Wilkinson (Cambridge: Cambridge University Press, 2007).

Table 1: A timeline of key political and power events in West Bengal

Year	Political developments	Power sector developments
1977	CPI(M) is first elected, beginning 34 years of one-party rule	Load shedding and financial losses are endemic, though the CPI(M) begins a slow process of capacity additions
1999		Creation of West Bengal Electricity Regulatory Commission (WBERC) under the Electricity Regulatory Commission Act, 1998
2000	Reformist Buddhadeb Bhattacharjee becomes Chief Minister	Public sector enterprise reforms are initiated, with assistance from PwC
2002		Anti-power theft law passed
2003		The national Electricity Act is passed, although CPI(M) representatives call for amendments Government of West Bengal forms Subimal Sen Committee on power restructuring; implementation delayed by union resistance
2004	CPI(M) does very well in Lok Sabha election	
2005		West Bengal's power reform efforts are initiated with a long policy review process Centre's Rajiv Gandhi Grameen Vidyutikaran Yojana for rural electrification launched
2006	CPI(M) is reelected for the seventh consecutive time with an enlarged seat share, interpreted as a mandate for further liberalization	
2007	Violence erupts around the special economic zone in Nandigram and the Tata Nano project in Singur; the state's harsh	West Bengal State Electricity Board is unbundled into separate transco and discom

	response is seen as a betrayal of Left Front ideology and voters	
2008	The Left Front begins to lose a swathe of village-level elections	Performance-based incentive scheme and audits introduced in utilities
2011	The Trinamool Congress, led by Mamata Banerjee, wins an absolute majority in the state assembly election	Mamata Banerjee first blocks tariff hikes, but is persuaded that regular hikes are essential Deaths at the hands of police discourage crackdown on power theft
2012	"Coalgate" coal block allocation scandal breaks; cancelled allocations eventually leave West Bengal utilities with hefty penalties	Tariff freezes lead to worsening utility finances; imminent power cuts persuade the administration to permit belated hikes Publication of renewable energy policy
2015		Domestic electricity tariffs go up sharply with retrospective effect; sporadic protests occur The centre launches Ujwal Discom Assurance Yojana (UDAY) to revive discom finances; West Bengal does not sign up
2016	Trinamool Congress re-elected with a still more decisive margin, as CPI(M) vote collapses. Public pronouncements increasingly aim to attract industry to West Bengal	In advance of the election, tariff revisions are delayed WBERC begins debating the end of the cross-subsidy payments from industry

I. Historical Background, 1947-2000

Despite inheriting the largest quantum of installed electricity capacity of any province at the time of independence in 1947, in the years since then West Bengal continued to electrify only slowly. The state's longstanding reputation for labour militancy discouraged private investment, and so the lucrative industrial consumer base was slow to grow. At the same time the West Bengal State Electricity Board (WBSEB) was structurally deprived of high-paying customers to draw on for revenues and to support cross-subsidization. The urban and industrial consumers in the capital of Kolkata have been served by the private Calcutta Electric Supply Company (CESC) since 1899. The coal-rich industrial belts around Durgapur and Asansol-Raniganj were similarly monopolized by the centrally controlled Damodar Valley

Corporation, the state-owned Durgapur Power Limited, and India Power Corporation Limited (formerly Dishergarh Power Supply Company, privatized in 2009).

Partly as a result of this structural asymmetry, electrification expanded only gradually, especially outside urban centres, in contrast to western and southern states where wealthy agrarian lobbies succeeded in pushing for decisive rural electrification.[7] This urban bias was in part geologically determined—the state's wet, fertile climate meant that agrarian irrigation was less of a priority than in the drier areas of western India—but it was also politically conditioned.

By the mid-1970s, West Bengal's power sector was in a state of crisis, mirroring the state's wider crisis of governability. The decline of the Indian National Congress and widespread popular unrest created a power vacuum, in which short-lived governments struggled to enact effective policy. Underinvestment in the power sector led to dramatic mismatches between demand and supply; load shedding extended for up to 12 hours even in Kolkata. A new Left Front government, headed by the CPI(M), began a slow stabilization of the sector; it would hold power for the next 34 years, winning seven consecutive state assembly elections to become India's longest-serving state administration.

The neglect of rural electrification persisted even under this nominally communist regime. Rural Bengal, with its long tradition of peasant and anti-state Naxalite mobilization, provided the bedrock of the CPI(M)'s electoral support. The party is often regarded as prioritizing the countryside during the 1980s and 1990s, evidenced by its famed programme of rural land redistribution and tenancy reform. Yet the 2001 census recorded a rural household electrification rate of only 20.3 percent, well below the all-India average of 43.5 percent. Overall agricultural consumption remains low (less than 10 percent of connected loads), and many farmers instead opted for expensive private diesel-powered pump sets.

The CPI(M)'s neglect of rural electrification, as of education and healthcare, suggests the shallowness of its agrarian and pro-poor reforms in practice. Its leadership was dominated by urban, educated, upper-caste elites, mediating a surprisingly robust "coalition of the middle and lower strata."[8] Even while offering modest redistribution to its loyal poor and rural voters, it was well aware of the practical importance of placating troublesome urban constituencies and large industrial houses through means that included adequate urban electricity supply. Its land reforms also inadvertently helped to prevent the emergence of a competing lobby of wealthy farmers by creating an agrarian class with significantly smaller holdings than their counterparts elsewhere. As a result of this consensual "politics of middleness,"[9] West Bengal's power sector largely escaped some of the canonical problems of the Indian power sector—notably low, flat tariffs for farmers which elsewhere led to financial debilitation and underinvestment. More recently the government has successfully pressed for significant agricultural tariff hikes, metering, and strict groundwater regulation, efforts unthinkable in many other states.[10]

Nonetheless, concerns about the power sector's inefficiency remained. Well known for its tight control of the state bureaucracy, the CPI(M)'s earliest moves to reshape the sector established a mode that would persist until the regime's demise in 2011: technocratic, statist, and pragmatic, rather than

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[7] Sunila S. Kale, *Electrifying India: Regional Political Economies of Development* (Stanford, CA: Stanford University Press, 2014).
[8] Atul Kohli, *Democracy and Discontent: India's Growing Crisis of Governability* (Cambridge: Cambridge University Press, 1990), 267; Kale, *Electrifying India*, 170–5.
[9] Dwaipayan Bhattacharyya, "Politics of Middleness: The Changing Character of the Communist Party of India (Marxist) in Rural West Bengal (1977-90)," in *Sonar Bangla? Agricultural Growth and Agrarian Change in West Bengal and Bangladesh*, ed. Ben Rogaly, Barbara Harriss-White, and Sugata Bose (New Delhi; London: Sage Publications, 1999).
[10] Aditi Mukherji, "Political Ecology of Groundwater: The Contrasting Case of Water-Abundant West Bengal and Water-Scarce Gujarat, India," *Hydrogeology Journal* 14, no. 3 (2006): 392–406.

ideological. New generation capacity was constructed, and the West Bengal Power Development Corporation Limited (WBPDCL) was created in 1985 to gradually take on WBSEB's generation assets, later cited as a successful precedent for utility restructuring. As in the wider economy, the CPI(M) even resorted to quiet liberalization: reversing his earlier stance, Chief Minister Jyoti Basu (served 1977-2000) countenanced the transfer of CESC to the R.P. Goenka Group in 1989, and in an example of "reform by stealth" effectively privatized the Kasba gas plant via a long-term lease to CESC.[11] In 1991, Basu also attempted to set power policymaking on a more technocratic and less "political" basis, appointing the Jadavpur University energy academic Sankar Sen as power minister.[12] Enjoying some success in improving technical efficiencies, Sen served until arguments with CESC over tariff hikes forced his resignation in 1999. Simultaneously, the chief minister lent his support to a precocious state-led programme of renewable energy development concentrating on small-scale and largely off-grid demonstration projects. Again signalling the technocratic bent of the CPM's power governance model, these early successes were attributed to a "professional network" that included the political administration, the School of Energy Studies at Jadavpur University, private companies, and the West Bengal Renewable Energy Development Agency (WBREDA, established in 1993).[13] This technocratic, state-led trend would only accelerate with the more systemic electricity reforms of the 2000s.

By the turn of the century, the worst of the blackouts were over (the peak deficit dropped from 31.2 percent in 1991-1992 to 5.5 percent in 2000-2001). Nonetheless, WBSEB continued to struggle financially: its average rate of return on fixed assets between 1992-3 and 2000-1 was -53.3 percent (without subsidy), among India's worst. Power quality, rural electrification, and plant load factors remained low, while improved accounting saw reported T&D losses rise from 20.0 percent in 1997-1998 to 30.0 percent in 2000-2001.[14] Simultaneously, at the top of the CPI(M) administration a pragmatic recognition of the need for electricity reforms, and the loose outlines of a technocratic, apex-driven mode of reformism, were beginning to emerge.

II. Beginning Reforms, 2000-2005: Bureaucratic Centralism in the One-Party System

In 1991, power generation became the first major sector opened to private investors by the Union government, sparking a quarter-century of (often abortive) central power reform initiatives. The stance of West Bengal administrations to the Government of India has traditionally been oppositional, and at the national level the CPI(M) was a fierce public critic of New Delhi's liberalization efforts. Nonetheless, in practice the party had long proved more pragmatic than dogmatic and, although the surprising agricultural productivity gains of the 1980s and 1990s had briefly masked the problem of West Bengal's weak industrial base, the state's dire fiscal situation was becoming increasingly obvious. Exacerbated by its low tax collection ratio, limited access to central grants, and the "communist premium" it paid to borrow from the markets, this forced the Left Front leadership towards compromises.

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[11] Rob Jenkins, *Democratic Politics and Economic Reform in India* (Cambridge: Cambridge University Press, 1999), 91.
[12] Interview with a former power minister on August 5, 2016.
[13] Tom Harrison and Genia Kostka, "Manoeuvres for a Low Carbon State: The Local Politics of Climate Change in China and India," DLP Research Paper 22 (Developmental Leadership Program, 2012), 32–4.
[14] Figures from Planning Commission, *Annual Report (2001-02) on the Working of State Electricity Boards & Electricity Departments* (New Delhi: Government of India, 2002).

In the mid-1990s Basu adopted a "new" liberal industrial policy and began to woo private investment. His replacement, the reformist Buddhadeb Bhattacharjee, accelerated these trends, frankly stating the inevitability of working within a capitalist framework in order to improve the government's balance sheet and generate employment. The Left Front regime therefore shifted to compete for private and foreign direct investment, and to prioritize industrial growth over its loyal rural base: "Agriculture Our Foundation, Industry Our Future" was its 2006 election slogan.[15] In this vision, the availability of cheap, abundant power would be the state's "USP [unique selling point]."[16]

More immediately, the government sought to bring down its large public sector wage bill. The crucial precursor to West Bengal's power reforms arrived through the divestment of "sick" public sector enterprises (PSEs), which reform advocates successfully argued were draining the exchequer. With funding from the UK's Department for International Development (DfID), PSE secretary Sunil Mitra—long a champion of reform—for the first time was permitted to bring in a team of independent consultants to work with the government. The same PricewaterhouseCoopers (PwC) team would provide the core personnel for electricity reforms five years later. An eight-year process of building up support culminated in several successful divestments, crucially without significant labour opposition in this most notoriously unionized of states. Several lessons from this experience would later be applied in the power sector, such as the value of organizational strengthening via measures such as financial restructuring, and the importance of devoting time and resources to winning over employee unions, couching the reforms as necessary and non-ideological.[17]

In these reform efforts the CPI(M) was able to draw on its unique organizational strength and the durability of its class coalition, bolstered by a system of local clientelism. Once controversially credited by a prominent political scientist as probably India's best state-level administration,[18] the CPI(M) was a well-disciplined, cadre-based organization with a centralized hierarchy that vested substantial power in the chief minister. Its domination at the state level was near absolute and proved remarkably well able to head off counter-mobilizations by competing elites, despite never winning more than half of all votes.

Nonetheless, the CPI(M) system was far from a purely Weberian bureaucracy. Penetrating daily life so deeply that West Bengal's political setup was labelled a "party-society," its grip on the grassroots relied on formal decentralization through the *panchayati raj* system of local government, introduced almost as soon as it took office, and on the distribution of local patronage to secure support. The CPI(M)'s success rested on its activists' ability to mediate between these two levels: the "elevated" domain of centralized, top-down policymaking and the "embedded" domain of dispersed, everyday clientelism, especially among poor voters in rural areas.[19]

Together, this centralized decision-making and popular clientelism helped to inform a distinctive mode of reforms. The CPI(M)'s longstanding "politics of middleness" and hierarchical state-party apparatus gave the chief minister the latitude and authority to push for major policy change with the eventual goal

[15] Partha Pratim Basu, "'Brand Buddha' in India's West Bengal: The Left Reinvents Itself," *Asian Survey* 47, no. 2 (2007): 294.
[16] Phone interview with a donor agency official on August 3, 2016.
[17] Interviews with a former bureaucrat on August 11, 2016, and a former consultant on August 12, 2016; see also Stephen J. Masty, "Communication, Coalition-Building and Development: Public Enterprise Reform in West Bengal and Orissa States, India," in *Governance Reform under Real-World Conditions: Citizens, Stakeholders, and Voice*, ed. Sina Odugbemi and Thomas Jacobson (Washington, DC: World Bank, 2008).
[18] Kohli, *Democracy and Discontent*, 268.
[19] Dwaipayan Bhattacharyya, "Left in the Lurch: The Demise of the World's Longest Elected Regime?" in *Handbook of Politics in Indian States: Regions, Parties, and Economic Reforms*, ed. Sudha Pai (New Delhi: Oxford University Press, 2013); *Government as Practice: Democratic Left in a Transforming India* (Delhi: Cambridge University Press, 2016).

of industrialization. Towards this end, Bhattacharjee was also able to draw upon the regime's tight links with the senior bureaucracy, fostered in part by its sheer longevity: key power reformers describe a process of "negotiation" with a receptive apex, in which they well understood how best to couch their suggestions to appeal to politicians.[20]

While their ability to enact reform depended in part on the CPI(M)'s historical embeddedness, reformists saw the party-state itself as a liability where its embeddedness in society risked hollowing out official institutions. Bhattacharjee publicly acknowledged that corruption and high-handedness among local satraps and bureaucrats was becoming a serious concern.[21] In the power sector, the key symptom was a comparatively high level of theft (Figure 1), alongside the more widespread issue of union activism. This pushed the regime to attempt to restrict the influence and "embeddedness" of the lower apparatus of the party-state and even some of its own senior personnel.[22] For the power sector this meant an acceleration of the technocratic attempt to depoliticize operations nascent in the 1990s, under the mantra of "removing the human element."[23] While this would bring some practical gains, the move towards increasingly apex-led policy change rather than local responsiveness would come at the cost of popular support.

III. West Bengal's Technocratic Model of Power Reform, 2005-2011

After years of consultation, the national Electricity Act finally passed in 2003. Unlike the Communist Party of India, the CPI(M) was not entirely hostile to the idea of power reforms, but the final Act was seen as "a big pile of legalese" which deliberately ignored the preceding years of state-level discussion.[24] The Bengali CPI(M) member on the parliamentary sub-committee on power refused to endorse it, and the Left also succeeded in extracting a promise to review the Act from the United Progressive Alliance coalition that won the 2004 national election. Nonetheless, the ever-pragmatic Bhattacharjee had already taken the opportunity to form a committee to examine power restructuring in the Act's wake. The implementation of its recommendations stalled, thanks largely to union resistance. In 2005, however, the reformers' credibility had been bolstered by the divestment successes, and the chief minister shifted Sunil Mitra to the power department with a mandate for reform.

Although once again the overall rationale for the power reforms was to rein in the state's fiscal deficit, the reform team was in an unusually favourable position vis-à-vis the utility itself. First, as noted, they did not have to grapple with high levels of agricultural consumption or powerful rural lobbies. Second, while in many states power reforms were precipitated—and arguably then undermined—by dramatic crises, WBSEB had already turned something of a corner under two exemplary chairmen, Sanjay Mitra and Malay Kumar De, who both brought about efficiencies such as a precociously developed computerization system (the former was forced out by employee unions for his trouble). Anti-theft

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[20] Interviews with former senior power sector officials on August 5, 2016 and August 11, 2016.
[21] Surajit C. Mukhopadhyay, "Left Front Win in West Bengal: Continuity, but Also Change," *Economic and Political Weekly* 36, no. 22 (2001): 1942–44.
[22] It is important not to overstate the depth of support for the power reforms in the CPI(M)'s upper ranks. In 2004, Bhattacharjee's own power minister publicly argued that state governments and not regulators should determine tariffs, and reform bureaucrats describe having to circumvent their own power ministers. Interview with a former senior power official on August 11, 2016.
[23] This phrase recurred throughout the interviews; e.g., interview with a former power minister on August 10, 2016.
[24] Former regulator, July 31, 2016; he was then a senior bureaucrat in the CPI(M) government.

legislation had begun to rein in T&D losses (Figure 1). The reformers inherited some fiscal breathing space and high-calibre top utility management. Privatization was off the table, as were major job losses, but otherwise Mitra's team was granted a remarkably free hand.

If the Electricity Act had opened up a window for state-level action, West Bengal's reformers were critical of its "one size fits all" approach.[25] Instead, the power reforms introduced after 2005 were distinctive and locally led. Indeed, they were explicitly informed by a painstaking, months-long critique of previous reform failures in other states by PwC consultants who had often seen these experiences first-hand. The new power secretary also asked the World Bank not for financing—seen as politically untenable—but technical assistance and international exemplars to deploy in internal debates. The reform prescription emerged incrementally from this analysis, rather than as a cohesive, explicit alternative to the oft-critiqued "World Bank template," but in retrospect it appears a strikingly coherent mode of reforms within the overall framework of public sector ownership. At the same time, the reformers were able to exploit the centre's 2003 Electricity Act to depict the changes as externally imposed.[26]

The reformers "set aside the ideological issues of the 'two Ps': pricing reforms and privatization."[27] The Act's prescription for institutional restructuring (unbundling) was also considered merely "cosmetic," a means to an end.[28] Instead, the core of the reforms was to empower and upgrade the utilities themselves through improved corporate governance and internal efficiency, the real problem the reformers sought to address. As a key policymaker explained:

> The first step was to isolate the utility—to the extent that the political economy allows—from political interference. We never believed the government would be out of the sector entirely: that's too optimistic given that the sector is government-owned and fulfils welfare goals. But we could keep it slightly at arm's length. You can only do this if you assure the government that the sector will be run well, because politicians have two interests in the sector: (1) the quality of service, and (2) the efficiency of the customer interface. If you falter in either of these the political executive takes note... In any case, both power theft and political interference are often only excuses for inefficiency within the utility itself. So our efforts were driven by internal reforms. All other desirable ends, like good consumer management, follow from this improved accountability system.[29]

The *sine qua non* was profitability, which would both ensure financial independence from the government and reassure politicians that the reforms were worthwhile. The state government wrote off Rs. 11,000 crore of WBSEB's debts, a cleaning of its books that the reformers sought to leverage to deliver visible improvements quickly, unlike the slow and painful initial years that many states experienced. In this they were helped by the availability of fairly cheap power, enabling them to hold tariffs stable during the initial reform period.

The core of the reforms was the imitation of private sector corporate governance best practice—in particular, "shadow listing" through the drafting of Articles of Association in accordance with the

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[25] Interviews with consultants on August 12, 18, and 30, 2016; see also World Bank, *Organizational Transformation*.
[26] For example, they claimed that such reforms were an essential condition for the state government's forgiveness of WBSEB's debts. Interview with a former senior power official on August 11, 2016.
[27] Phone interview with a donor agency official on August 3, 2016.
[28] Interview with a former senior utility official on August 5, 2016.
[29] Ibid.

recently published Clause 49, the Securities and Exchange Board of India agreement governing listing on the Indian stock exchange. This aimed to institutionalize an arm's-length relationship with the government, notably through the introduction of genuinely independent directors recruited from top-tier executives. Behind closed doors even the eventual possibility of divestment was discreetly considered, which would have reinforced their independence even while providing a useful source of government revenues.[30]

If the first phase of reforms focused on apex-level management, the second focused on the workforce. As during the PSE divestment process, the reformers devoted much time to winning over utility employees, especially through a personalized campaign of meetings with unions to reassure them that job losses and transfers would be minimal, while the government guaranteed their pensions.[31] Middle managers, who would be crucial in enacting and disseminating the reform rationale downwards, were won over with prestigious academic management courses. As a result they felt genuine "ownership" of the reform efforts.[32] Alongside this extensive internal stakeholder consultation, the decision was taken to keep a low media profile for as long as possible (unlike Odisha, where reformers opted for a very public education process).[33]

Once employees were on board, restructuring began. Informed by difficulties experienced by several early-reforming states, the reform team determined that multiple discoms made little sense where private competition was not on the cards: they would merely exacerbate the scarcity of managerial talent, create employee transfer issues, and make cross-subsidization across asymmetrically wealthy districts more problematic. Accordingly, in 2007 WBSEB was split into a transmission utility, the West Bengal State Electricity Transmission Company Limited (WBSETCL) and a single discom, the West Bengal State Electricity Distribution Company Limited (WBSEDCL).

The reformers then turned to scrutinize business operations throughout the organization. Detailed job descriptions were drawn up for existing staff to ensure there were clear standards for performance monitoring and accountability. The bottom-heavy workforce was slimmed down, thanks to a long recruitment freeze that had succeeded the politicized expansion of staffing levels in the 1970s; many low-calibre employees were close to retirement.[34] In their place, managers sought to attract a smaller number of high-quality technical staff with some of the highest wages in the public sector, and others on contract. Meanwhile, the multi-layered administrative hierarchy was somewhat flattened through heavier reliance on outsourcing for tasks such as bill collection, a form of discreet frontline privatization.

Already precociously computerized, WBSEDCL also opted for technology-aided solutions to "remove the human element" through automation, and to improve surveillance where the "human element" remained necessary. To do this it took advantage of the resources provided for computerization by the centrally sponsored Restructured Accelerated Power Development and Reforms Programme (R-APDRP,

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30 Interview with a consultant on August 30, 2016.

31 Not until October 2015 would the transfer of personnel be completed; until this point, WBSETCL's staff served on deputation from WBSEDCL to smooth out the bureaucratic hierarchy. The cost of staff liabilities had been an issue in Odisha, sending tariffs soaring; West Bengal thus opted to share the burden with the government through a bond issue and the creation of pensions trusts, though WBSEDCL continued to service the costs. Phone interview with a consultant on August 30, 2016.

32 Interview with an engineers' union representative on August 18, 2016.

33 Masty, "Communication."

34 WBSEB had already introduced a voluntary retirement scheme, but only a small number of workers had opted in. However, the changes gathered pace: in 2004 the average employee age was 52; by 2016 it was 42, and is expected to fall further. *Financial Express,* "A Problem of Elders in West Bengal's State Electricity Board," December 13, 2004; interview with a senior discom manager on August 18, 2016.

relaunched in 2008). Bulk consumers and many urban feeders were provided with modem-equipped, remotely readable meters, feeding real-time data into centralized centres to improve billing and catch theft.[35] The third reform phase aimed for the rollout of Enterprise Resource Planning, using modular software to automate and integrate business processes, though this lagged as managerial capacity began to slip (see below).[36] Through these interrelated measures to improve accountability and reduce the workforce, the reformers sought to rein in the costly bureaucratic apparatus and reduce its exposure to political interference, even where this came at the cost of increased reliance on the private sector by the back door.[37]

Supportive but secondary throughout the reform process was the West Bengal Electricity Regulatory Commission (WBERC, created in 1999). Although WBERC's seal of approval was solicited for the reforms, several key policymakers remained wary of the fundamental risk of political capture within the system of "the regulation of government by government."[38] Although its importance in sustaining reform was recognized, the reform process was neither regulator-designed nor regulator-led.

Nonetheless, WBERC provided a useful bulwark for West Bengal's technocratic mode of power governance. In practice it was often strikingly pro-utility, at least while key officials in both institutions were aligned in their long-term vision for the sector's future. The regulator was instrumental in consistently revising tariffs upwards between 2007 and 2011. It also aimed to be more light-touch and flexible than many other regulators: to accommodate changing circumstances and encourage innovation, it does not scrutinize every utility investment decision upfront but approves their capex spending as a whole, truing up the number annually.

In contrast, in around 2007 WBERC stopped holding public hearings, which tended to degenerate into chaos.[39] It instead takes written submissions on draft orders released online and advertised in major regional newspapers, and solicits responses directly from well-known interest groups. Surprisingly, some consumer groups endorsed this decision, feeling the public understood too little of the sector to contribute anything meaningful to policymaking bar kneejerk resistance to even modest tariff rises;[40] in any case, besides sporadic attention around tariff hikes, public and media interest in the sector generally remains low.[41] Meanwhile, the utilities enjoy heavy representation on WBERC's advisory committee.

When the utilities are functioning well, as between 2007 and 2011, this technocratic compact with the regulator has worked fairly smoothly. When the discom temporarily bears the burden of political interference (for example, in postponing tariff petitions) and then later seeks financial redress via steep

[35] Ritam Sengupta, et al., "Exploring Big Data for Development: An Electricity Sector Case Study from India," Development Informatics Working Paper 66, (University of Manchester, 2017).
[36] Interview with a consultant on August 30, 2016. The World Bank also found that automation "has suffered from lack of staff interest and little management commitment;" Pargal and Mayer, *Governance*, 27.
[37] WBSEDCL engineers have raised concerns about the weak oversight of this outsourced structure, especially given its rapid rural expansion, and indeed there have been several cases of subcontractors taking money to deliver connections that never materialize. The third-phase ERP upgrading (using SAP software) also relied heavily on Tata Consultancy Services, who controlled access to the system; WBSEDCL employees warned that this dependence risked becoming permanent and successfully petitioned for its transfer. Interviews with engineers' union representative on August 18, 2016, and consumer group representative, August 3, 2016.
[38] Phone interview with a donor agency official on August 3, 2016; interview with a former discom manager on August 5, 2016.
[39] WBERC reads §64 of the 2003 Electricity Act as mandating it to *consider* stakeholder suggestions, but to *hear* them only at its discretion. In 2004, it won a case on this before the Kolkata High Court, and formalized this stance in its (Terms and Conditions of Tariff) Regulations.
[40] Interview with a consumer group on August 3, 2016.
[41] Interviews with journalists, August 3, 2016 and August 10, 2016.

tariff hikes, however, WBERC has been reluctant to allow it to pass on the cost of its inefficiencies to consumers. In 2002-2003, for example, WBSEB challenged WBERC before the High Court on a rise perceived as too low; the utility was demanding an enormous 33 percent hike. Since 2012, the regulator has similarly attempted to resist discom pressure over regulatory assets (see below).[42]

The result of these reform efforts remained strikingly statist. Today most generation (68 percent) remains in the hands of the state generation company, as does transmission and distribution outside Kolkata and the Asansol-Raniganj belt.[43] Open access was "allowed in theory, but not in practice:" the politics of cross-subsidization made it unpalatable, while high levels of T&D losses and metering problems were also perceived to undermine the strong data basis needed for privatization.[44] The utilities have thus far successfully lobbied the regulator for very high wheeling charges to discourage elite consumer exit, most recently succeeding in blocking open access for the railways. For their part industrial consumers are not actively lobbying for it, although CESC reports that it is receiving several queries daily from large consumers interested in investing in their own rooftop solar capacity.[45]

For several years the West Bengal model proved strikingly successful on key metrics, from corporate governance and financial performance to rural electrification. It became one of only three states with profitable discoms by 2011, with revenues more than covering the cost of supply. Thanks to its corporate governance reforms, the World Bank named West Bengal's utilities among India's best-governed, an exemplar of arm's-length management despite state ownership.[46] Board meetings went from brief rubber-stamp exercises to multi-hour inquisitions. Its early move on computerization, feeder metering, and vigilance began to pay dividends as T&D losses started to fall (see Figure 1), although they remained high in the hills, borderlands, and certain urban neighbourhoods. In the Government of India's first formal assessment, WBSEDCL accordingly received an "A" grade.[47]

As the quality of service began to rise, the goalposts shifted once more in line with increased consumer expectations and sensitivity to even short disruptions: a relatively new expectation of uninterrupted power 24 hours a day has swiftly come to dominate, at least in urban areas. On this WBSEDCL also had a visible benchmark: Kolkata's private utility CESC, widely recognized as one of India's most efficient (and handsomely rewarded for this by the regulator), committed to technical dynamism and improved consumer service despite its monopoly status.[48] Both discoms realize that consumer relations are crucial

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[42] *Business Standard*, "Change at WBSEB Amidst Tariff Battle," March 14, 2003; interview with a regulator on August 12, 2016.

[43] CEA data, September 2016; this compares with 36 percent in Maharashtra, 33 percent in Andhra Pradesh, and 28 percent in Gujarat. Since 2012 the state's share of power *sales* has declined, however; despite its higher cost state officials are unwilling to renege on agreements with the central generator NTPC (though this is being debated). Interviews with a former utility manager on August 7, 2016, and a former power minister on August 10, 2016.

[44] Interviews with a former regulator on July 31, 2016, and a regulator on August 12, 2016.

[45] Interview with a CESC renewables expert on August 3, 2016.

[46] Sheoli Pargal and Kristy Mayer, *Governance of Indian State Power Utilities: An Ongoing Journey* (Washington, DC: World Bank, 2014), 29–30, 33, 82.

[47] Even by 2013, however, there were signs that its performance was beginning to slip. Ministry of Power, *State Distribution Utilities First Annual Integrated Rating* (New Delhi: Government of India, 2013), 17.

[48] Often criticized by Kolkata consumers, CESC's very healthy profits are a sign that incentives offered by WBERC may be working: it is rewarded for its high performance against benchmarks, like those for reducing AT&C losses, that are largely set with reference to the state discom (for example, it gains an extra bonus because its losses are only 11.6 percent overall, a third of WBSEDCL's and well below the targeted 16 percent). This dynamism also stems from its long-term vision: while currently enjoying a monopoly, its senior managers see a more competitive scenario as inevitable, and hope to have developed both superior efficiency and a loyal consumer base when that unwelcome day arrives. To this end they are exploring various options at the technological frontier, from international smart grid partnerships to demand-response management trials (for example, "load shaving" by pre-cooling malls during off-peak periods). Interviews with CESC managers on July 30, 2016 and August 2, 2016.

today, and have devoted resources to improving their consumer services, streamlining maintenance through automation, and rapidly escalating complaints up the hierarchy. This should not be overstated: in many rural areas supply remains uneven in terms of hours and voltage, and newly connected households often embrace electricity only warily until they assess its financial impact. In such areas slow connections, aggressive disconnections, and billing problems continue, while customer service facilities remain overstretched under overworked station managers with large jurisdictions and little training on consumer relations.[49]

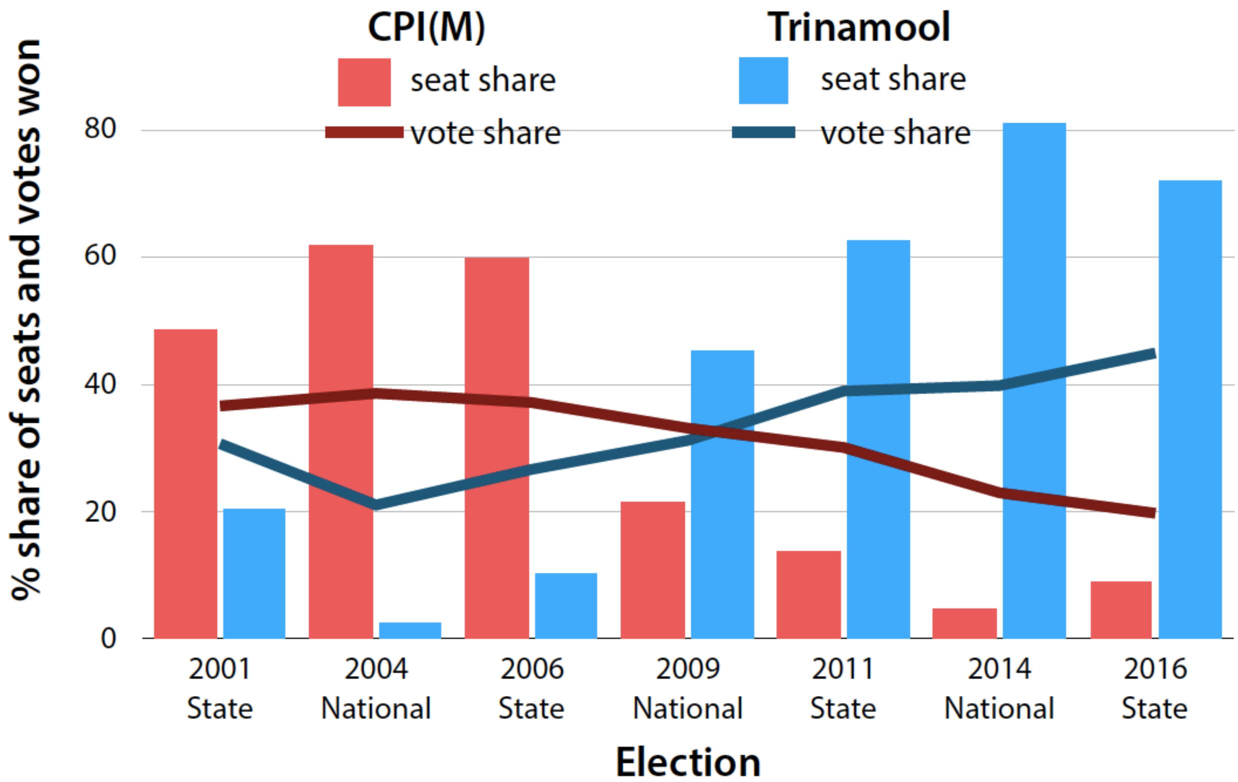
Yet these same rural areas have hosted another fundamental transformation: the dramatic expansion of rural electrification. Drawing on the heavy subsidy injection provided through the centrally sponsored *Rajiv Gandhi Grameen Vidyutikaran Yojana* (RGGVY), the discom under the Left Front belatedly initiated a rapid expansion into rural areas. Between the 2001 and 2011 censuses, the percentage of rural households using electricity as their primary light source doubled from 20.3 to 40.3 percent, with the total number of connections rising from 3.57 million to 8.57 million. This has only accelerated under the current government. In the five years since 2011 the number of connections has nearly doubled again, to 16.37 million.[50]

The downside of this impressive surge was the loss of West Bengal's early-mover advantage on renewable energy, which was concentrated off-grid. Just as international financial institutions belatedly began to recognize India's off-grid potential, the RGGVY incentivized conventional grid electricity instead. As the grid expanded, off-grid power—more expensive and in shorter supply—increasingly fell out of favour. Even as rural interest declined, though, new urban and commercial constituencies started to evince interest in (captive) solar of their own, motivated by high conventional power tariffs. International lending and state policy has lagged this urban shift.

West Bengal was further disadvantaged by a second Union scheme, Phase I of the Jawaharlal Nehru National Solar Mission (JNNSM). While the overall national target was smashed, in practice it failed to ensure the "distributed" renewables at which it purportedly aimed. By setting an all-India uniform tariff, it encouraged private developers to cluster in western India, especially Gujarat and Rajasthan.[51] Eastern India, with its lower insolation levels, received almost no interest. The regulator WBERC does not penalize the discoms for failing to meet their statutory renewable purchase obligation (RPO), arguing that they continually advertise for renewable power but providers are not forthcoming. It is reluctant to encourage renewable purchases from other states as well, because "our own consumers would pay much higher rates while it would be their renewable firms that benefited."[52] West Bengal has thus far failed to keep pace with this shift from off-grid, state-sponsored to on-grid or private renewables (see below). At the same time, rural electrification came too late to prevent the popular backlash against the CPI(M)'s pro-industrial reforms: by 2008 more than half of Bengali villages would be in opposition hands, and in the 2009 national elections the party lost two-thirds of its Lok Sabha seats (Figure 2).

[49] Interviews with consumer groups on August 3, 2016 and August 9, 2016.
[50] Figures from Planning Commission, *Annual Report (2013–14) on the Working of State Electricity Boards & Electricity Departments* (New Delhi: Government of India, 2014). *Moneylife*, "West Bengal Power Sector Illustrates the Difficulties of Power Reform," June 9, 2016.
[51] Interview with a renewables policymaker on August 12, 2016.
[52] Interview with a former regulator on July 31, 2016; see also interviews with senior CESC officials on July 30, 2016.

Figure 2: West Bengal election results for the CPI(M) and Trinamool Congress, 2001-2016



IV. Increased Party-Political Competition, 2011-2016

The Left Front had banked heavily on the hope that improving the climate for investment, including through the improved power supply, would bring dividends. Its technocratic reform model and Bhattacharjee's elitist governance style may have begun to deliver in the power sector, but this pro-industry tilt came at the cost of the CPI(M)'s overall moral credibility. After 34 years, in May 2011 it was dismissed from power. A post-poll survey of voters suggested that it was voted out not because of dissatisfaction over its governance record, but because it had betrayed its own ideology and organizational links with poorer voters—most notoriously through state coercion around land acquisition at Nandigram and Singur in 2007.[53] For the first time it lost many hitherto loyal rural areas. The improving electricity supply was not sufficient to override this ideational and organizational identity crisis. Indeed, the technocratic reform trajectory that had worked so well in the power sector was in some ways high-handed and industry-driven, echoing the opposition Trinamool Congress's critiques.[54]

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[53] Cited in Bhattacharyya, "Left in the Lurch," 228; see also *Government as Practice*, 224.

[54] This is a break with Atul Kohli's celebrated interpretation, which strongly emphasizes the attractiveness of the CPI(M)'s more "Weberian" characteristics; in practice, these could prove alienating to voters even while enabling policy enactment. Kohli, *Democracy and Discontent*.

In the Left's place Trinamool swept to a majority (Figure 2). While it had earlier been popular among the urban lower-middle classes and small businesses, in 2011 it succeeded in winning over much of the Left Front's hitherto resilient base of sharecroppers and small cultivators. It has subsequently proven remarkably effective in dislodging the CPI(M)'s state-party system, clearly aspiring to a similar public dominance through the rebranding of public space and attempts to dominate rural life.

Yet the Trinamool regime faced quite different political challenges. While the CPI(M)'s very longevity had given its leadership the (perhaps misplaced) confidence that it could take long-term decisions, the new administration was conscious that it was operating in a formidably competitive political space. Nor did new Chief Minister Mamata Banerjee instantly trust the senior bureaucracy, given its long association with the patrician CPI(M) elite. The combination of a base among the "intermediate classes"—rural smallholders and the petty bourgeoisie—and fierce competition for votes helped to shape its populist stance towards the power sector. For much of its first term it prioritized pro-poor expansion through channels both formal (accelerated rural electrification) and informal (apex-level attempts to reduce tariffs and systematic theft coordinated by local satraps).

Upon taking office Banerjee therefore felt she had little choice but to block tariff revisions, against the advice of her own power minister and other sector specialists ("'Do not talk to me about tariffs," she instructed).[55] WBSEDCL's finances rapidly began to deteriorate, and the earlier reformers mobilized to intervene via her trusted lieutenants. They warned that in March 2012 power cuts would hit the Class X and XII examinations, an event whose cultural significance in West Bengal is perhaps second only to Durga Puja, and even permitted limited load shedding to begin to show the situation's seriousness.[56] After long consideration, the chief minister agreed to tariff revisions and nominally foreswore further political interference. Reformers saw this as a victory for long-term thinking.

Nonetheless, thanks to the heightened party-political competition that accompanied the end of CPI(M) one-party dominance, the government remained sensitive to popular resistance to tariff hikes. Although some officials argued that "justice delayed is justice denied," politicians favoured shifting the burden from present to future consumers.[57] WBERC delayed releasing the annual tariff order due in April 2016, just before the election; it has also delayed the annual "truing up" process by which the discoms can claim back for actual costs. In this, pressure on WBERC does not necessarily emanate directly from the Chief Minister's Office,[58] but often comes via the utilities. Around elections both WBSEDCL and CESC moderate their tariff petitions and refrain from deploying the semi-automatic monthly variable cost adjustment route to tariff revision.[59] The hikes that were belatedly permitted could not keep pace with the increasing cost of employee salaries or interest payments, nor with a perceived decline in WBSEDCL's overall performance. Power procurement proved especially costly, as the state found itself locked into expensive contracts with central generator NTPC while the Supreme Court cancelled a number of state-owned coal block allocations (recently returned). When revisions did belatedly arrive, tariffs lurched abruptly upwards, antagonizing consumers already facing some of the country's highest tariffs.

[55] Interviews with former senior power officials on August 5, 2016 and August 11, 2016.
[56] Ibid.
[57] Interview with a regulator on August 12, 2016.
[58] "I never received a phone call from the chief minister or anything like that," said one former regulator. Interview on July 31, 2016.
[59] Interview with a regulator on August 12, 2016.

Moreover, Trinamool is not the disciplined, cadre-based machine that the CPI(M) was, for all its flaws. United by its opposition to the CPI(M) rather than a coherent platform, and virtually "synonymous with" the forceful personality of Mamata Banerjee, it is more loosely structured and weakly coordinated.[60] Even if the Chief Minister is committed to non-interference, the reformers "realised that there are problems that Mamata cannot control; political will won't stretch downwards to solving problems of disconnections or theft."[61] T&D losses have begun to climb at a rate that cannot be attributed solely to technical losses from expanded rural electrification (Figure 1). A recent central report criticized WBSEDCL's declining collection efficiency,[62] and in several areas police are reportedly refusing to intervene against power theft. Many interviewees now characterize the power sector's problems as a law-and-order situation. The administration was further discouraged from cracking down on theft after a December 2011 enforcement attempt left two dead. Instead they are leveraging central money for substation-level feeder segregation.[63] Again, too, they hope that technology will act as a prophylactic against external interference, through smart grid pilots and big-data analytics to identify theft and "remove the human element" of utility operations, no matter that the "human element" of political interference may persist. Yet it is possible to overstate the contrast with the CPI(M): power theft was already rising again before 2011 and still remains well below pre-reform levels (Figure 1).

Since around 2013, by which time several first-generation reform champions had ended their formal responsibility for the sector, these problems have been exacerbated by a widely perceived decline in the quality of personnel.[64] WBERC was left with only one member and without a chairman for almost two years, though during this time it fought a rearguard action against institutional decline (see below); several people raised questions about the quality of its new members. WBSEDCL also struggled to find second-generation champions to take on the less glamorous work of reform sustainability in the face of interference. As a senior power official said cheerfully, "The utilities are not at all independent. We are poking them at least eight times a day, eight hours a day! … Their independence is only in terms of their own internal administration, for example in managing manpower."[65]

As a result of the above trends, since 2011 WBSEDCL has wrestled with mounting debts and has increasingly resorted to short-term borrowing to finance even everyday operations.[66] ICICI Securities estimated a revenue gap of *c*. Rs. 20 billion in FY15-16, widening due to interest rates above its permitted carrying cost on regulatory assets. The discom's credit rating was therefore recently downgraded, the ratings agency citing its rising regulatory assets, uncertainties around tariff revisions, and high T&D losses.[67]

These rising cost concerns, alongside the issue of land acquisition in this densely populated state, also further diminished the appeal of renewable energy. CESC and WBSEDCL fear a "death spiral" as elite

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[60] Mukulika Banerjee, "Populist Leadership in West Bengal and Tamil Nadu: Mamata and Jayalalithaa Compared," in *Regional Reflections: Comparing Politics across India's States*, ed. Rob Jenkins (New Delhi; Oxford: Oxford University Press, 2004), 298, 304; Bhattacharyya, "Left in the Lurch," 229.
[61] Interview with a former power official on August 11, 2016.
[62] Ministry of Power, *State Distribution Utilities Fourth Annual Integrated Rating* (New Delhi: Government of India, 2016), 32. It gave WBSEDCL an overall "B+" grade, like the majority of mediocre-performing discoms.
[63] They hope to confine agricultural power consumption to the nightly off-peak, though agricultural consumption still remains a minimal component of overall load. Interview, former power minister, August 10, 2016.
[64] Personal communication with a former power official on August 11, 2016; interview with a regulator on August 12, 2016.
[65] Interview on August 19, 2016.
[66] Ministry of Power, *Fourth Annual Rating*.
[67] *Moneylife*, op. cit; ICRA, WBSEDCL rating, March 2016, accessed at http://www.icra.in/Files/Reports/Rationale/West%20Bengal%20-R-29032016.pdf

consumers leave and combine to discourage strong action on renewables from the administration or the regulator.[68] In this they are backed by a strong coal lobby; the site of India's oldest mines, 84.4 percent of West Bengal's installed capacity remains coal-fired (though other policymakers point out the importance of diversifying this energy mix). Still a poor state and now with a power surplus, both private firms and the government are reluctant to make major investments in costly renewables. Indeed, senior policymakers argue that favouring renewables would merely introduce a new source of distortion and inefficiency.[69]

Meanwhile, West Bengal's renewable policymaking apparatus has degenerated. Renewables remain bundled in a single power department where they languish in the shadow of thermal power, unlike in New Delhi and some other states. When WBREDA's founder's attention shifted to the Union level, it became apparent that there was no institutional succession plan. It remains active, but has so far enjoyed little success in moving beyond small pilots or persuading the government to speed up the notification of detailed renewables policies that would reassure investors. A rooftop solar policy has been awaited for two years, for example. The West Bengal Green Energy Development Corporation (WBGEDCL), a second organization established to further the commercialization of renewables, is now virtually moribund; its major assets were transferred to WBSEDCL.[70] Nor does it seem that Kolkata's dynamic university networks are consistently feeding into policymaking.[71] The present result is stagnation, aside from attempts to showcase renewables via rooftop solar on government buildings, and early experiments with solar pump storage and floating solar. It seems, then, that everyone is waiting for a decisive nudge from the top of the state government before they will take renewable expansion seriously.

If the discom's management has had little choice but to accede to the political leadership, not all sections of the power bureaucracy have tolerated this quietly. Despite attempts to hollow it out (with some success in delaying tariff revisions), WBERC took a stand on the issue of regulatory assets. On paper WBSEDCL made marginal profits in recent years (Rs. 9 crore in FY 2015-2016). WBERC alleges that this profit is the result of misclassifying as receivables (i.e., costs that it can extract from consumers) a significant sum that the regulator has not approved because it stems from inefficiencies such as theft and compensation owed to poorly served consumers. A respected WBSEDCL board member resigned over this creative accounting. WBSEDCL has attempted to strong-arm WBERC into compliance, for example, by attempting to (illegally) reopen the contentious annual review (in collaboration with the state government) and influencing the staff deputed to the regulator, but the matter is still pending in the courts.[72] If WBERC played a secondary role in initiating the reforms, then, it has played some role in sustaining them—though recent changes to its membership may weaken this ability.

West Bengal's deterioration is thus only relative: it continues to outperform many other states, and there are signs that its internally focused model of reforms has proved a source of some resilience. While the high-calibre first generation of reformers are no longer formally connected to the sector, they continue to provide a watchful eye and an unofficial source of advice to the struggling second generation through informal channels.[73] The effects of corporatization upon utility employees appear to

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[68] Interviews with a senior WBSEDCL official on August 18, 2016, and senior CESC officials on July 30, 2016. In reality this fear may be exaggerated: the utilities are somewhat protected by a regulation that mandates a minimum of 10 percent consumption from the licensee, and those selling renewable energy back to the grid must still pay all fixed charges.

[69] Interviews with a former power minister on August 10, 2016, and a senior power bureaucrat on August 19, 2016.

[70] Interviews with a renewables policymaker on August 12, 2016, and a retired energy journalist on August 3, 2016.

[71] Interviews with energy academics on August 2, 2016 and August 6, 2016.

[72] Personal communication with a former power official on August 11, 2016.

[73] Interviews with former senior discom officials on August 5, 2016 and August 7, 2016.

be somewhat resilient, too. At least discursively, discom managers still envisage their enterprise to be "a professionally managed organization, not a government entity," even if they remain realistic about the negotiated character of their independence.[74] As the example of WBERC shows, many technocrats do not simply acquiesce to political pressure. Nor has political interference been as heavy-handed as in some other states: officials still generally serve out their tenures and tariff rises have belatedly occurred. Overall, as one reformer argued: "From the outset we always had doubts about sustainability. It's true that the sector is not at the level it rose to, but it is considerably better than the level that we started at."[75] Nonetheless, often sustainability has relied on the personal commitment and authority of individuals, and has not become as systematized as the reformers once hoped. The battle over regulatory assets bespeaks this tension: while old hands in the power establishment have fought against WBSEDCL's deteriorating performance, the attempt to massage the discom's accounts is a direct assault on the principles of robust corporate governance that the reforms aimed to instill.

There are signs, however, that the administration may be returning to a more long-term view of the power sector. In 2016, Mamata Banerjee's Trinamool Congress returned to office with an even more decisive mandate (Figure 2) supported by mass defections of CPI(M) local cadres. If Trinamool was elected in 2011 on a purely anti-CPI(M) platform, the decisive confirmation of five more years in power and the collapse of the CPI(M) vote may increase the political leadership's perceived latitude for long-term decision-making.[76] The administration, therefore, may move away from dispensing short-term sops and towards a more ambitious development agenda. There are both electoral and fiscal reasons to think that this might occur.

First, there exists public evidence that Bengali voters reward infrastructure provision. A Lokniti post-poll survey suggested that, while voters believe that Trinamool has encouraged corruption and deteriorating law and order, they nonetheless rewarded its perceived dedication to economic development, reporting a discernible improvement in electricity in particular (alongside another infrastructure sector, roads).[77] However, it is likely not enough to offer a one-time benefit like an initial connection or tolerating local power theft. Political-science scholarship suggests that rising consumer expectations (the increasingly widespread expectation of "24/7" power) may encourage a shift away from short-term clientelism to rewarding more sustained and programmatic "good governance."[78] With 100 percent household electrification imminent, power sector officials widely acknowledge that policy objectives must shift from basic provision to *quality* of supply. Efficient management will therefore become a rising priority.

Second, as it did for the CPI(M) in the early 2000s, the drive for industrialization and private investment has once again become paramount to provide jobs and, not least, to burnish government revenues. While Trinamool has enjoyed some success in reducing outstanding liabilities, West Bengal's debt-to-GSDP ratio remains the worst of any major state and interest payments eat up more than a fifth of its revenue expenditure; indeed, in recent years its power utilities have often been able to borrow more

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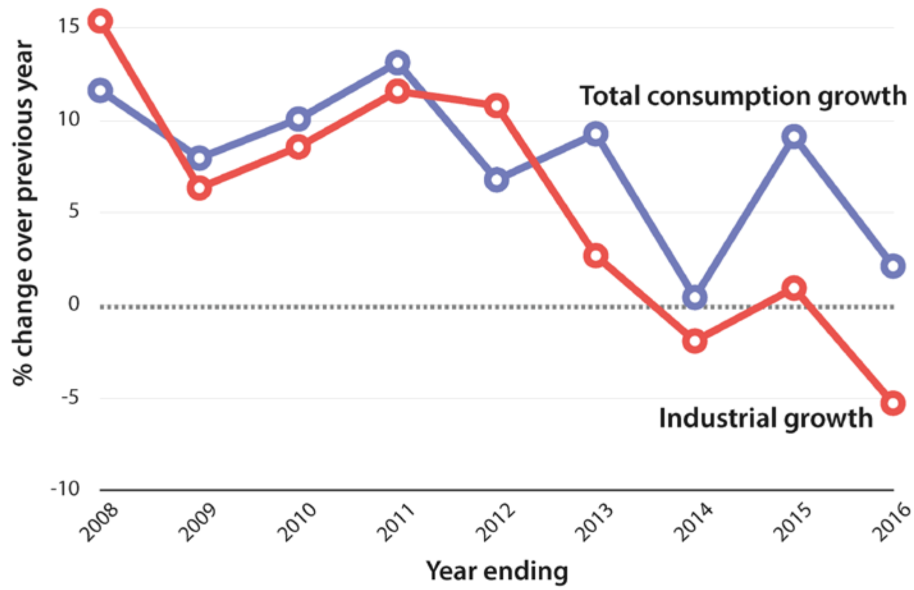
[74] Interview with a senior discom manager on August 18, 2016; see also interview with a donor agency official on August 3, 2016.
[75] Interview with a former senior discom official on August 5, 2016.
[76] Interview with a senior power bureaucrat on August 19, 2016.
[77] Shreyas Sardesai and Suprio Basu, "Poor Dump Left for Trinamool, Muslims Solidly Behind Didi," *Indian Express*, May 22, 2016.
[78] Wilkinson, "Explaining Changing Patterns," 132-40. Surveying rural Bengal, Pranab Bardhan and his collaborators also found that providing one-time benefits did not succeed in winning voter loyalty, while recurring benefits and broad-based changes did; "Local Democracy and Clientelism: Implications for Political Stability in Rural West Bengal," *Economic and Political Weekly* 44, no. 9 (2009): 46–58.

cheaply than the government.[79] The administration has therefore resisted signing onto the centre's *Ujwal Discom Assurance Yojana* (UDAY) financial restructuring scheme, as this would simply heap the discom's debts upon the state government's own distressed books. In addition, the chief minister argues that the centre's conditionalities would impinge on the state's rights over power policy.

Instead the state is looking to economic growth to solve its problems. Trinamool has rehabilitated the CPI(M)'s old hope: that quality electricity can by itself lure in industry, which bolsters the case to avoid political interference in utility operations or tariff setting.[80] There are even suggestions that the cross-subsidy could be dropped altogether, although in practice the government is torn between this and the contradictory pull of funding cross-subsidization through, for example, raising electricity duties for high-paying consumers.[81]

Figure 3: Industrial stagnation: electricity consumption growth trend, WBSEDCL[82]



Yet the impact of West Bengal power reforms suggests the limits of this strategy: Industrialization has not followed electricity improvements as seamlessly as was once hoped. Like several other states, West Bengal now nominally enjoys a power surplus, as demand growth has failed to keep pace with projections. Despite robust GSDP growth, the state's plateauing power consumption suggests that West Bengal's failure to attract industry, the large lucrative consumers who cross-subsidize the rest of the sector, persists (Figure 3).

[79] Figures from Niti Aayog, http://niti.gov.in/state-statistics, accessed October 20, 2016.
[80] Interview with a regulator on August 12, 2016.
[81] Interview with a former discom manager on August 7, 2016, and a senior power bureaucrat on August 19, 2016.
[82] Data from personal communication with a former discom manager on August 14, 2016.

Why is improved electricity failing to spur industrialization? Now that reliability has improved, industrialists do not consider electricity a primary issue, instead focusing more on land acquisition and other infrastructural bottlenecks, such as transport.[83] In this West Bengal's unusualness becomes obvious, especially when contrasted with two other states which embarked upon similarly technocratic and apparently successful reforms, Andhra Pradesh and Gujarat. There the power sector's improvements were part of a more broadly successful revision of economic strategy; Andhra Pradesh became an IT hub, for example. This did not happen in West Bengal, raising the question that one interviewee posed: "Can an island of excellence survive where everything else sucks?"[84] The final lesson from the West Bengal case is that power sector reforms in isolation can only achieve so much. While power sector governance is shaped by wider socioeconomic trends (for example, the CPI[M]'s collapse in popularity), it cannot alone reshape the entire economy.

Conclusion

Changing levels of party-political competition—and, secondarily, changing party strategies and organizational characteristics—have proved instrumental in the development of the West Bengal power sector since 2000. Until 2011 power policy was shaped under the one-party dominance of the CPI(M), unhampered by party-political competition. The CPI(M) leadership's bureaucratic centralism and desire for industrial development combined with its mistrust of the lower party-state to produce a pragmatic, public sector-led mode of power reforms, which gave much latitude to key bureaucrats and consultants in their "one size does not fit all" design.

The resulting reforms were technocratic and internal in emphasis, centering on corporate governance reforms, technology-aided process streamlining, and capacity building. The goal was to foster the utilities' financial and operational independence from the government both at the apex and by "reducing the human element" in day-to-day operations. While rejecting privatization, the regime opted for widespread outsourcing, independent consultants and independent directors, and lateral entry from the private sector in its drive for efficiencies. Meanwhile, public participation was restricted.

However, the "good governance" gains from the CPI(M)'s technocratic turn could not compensate for the perceived betrayal of its socialist ideology, capitalized upon by the opposition Trinamool Congress. Upon replacing the CPI(M) in 2011, Trinamool inherited a far more obviously competitive political scenario. Aiming to retain its voting base, it therefore shifted power policy in a pro-poor, "populist" direction, weakening (though not ending) the utilities' independence. In this way, party-political competition and the time horizons of power governance appear inversely related. The technocratic, utility-centred mode of power reforms proved only somewhat resilient under this renewed political pressure, although the sector continued to perform better than many of its counterparts. West Bengal thus offers both an impressive model of institutional resilience and an illustration of its limits, both in terms of utility independence and the power sector's ability to spur industrial transformation.

Today the sector's future is precariously balanced. Trinamool's decisive victory in 2016 may herald a return to long-term power policymaking, again with an industrial tilt. Contrary to the obstreperous stereotypes of the CPI(M) and Trinamool regimes in New Delhi, both have proven pragmatic in their relationships with the centre. West Bengal has been happy to take central resources where these have

[83] Interview with industry lobbyist on August 8, 2016.
[84] Phone interview with donor agency official on August 3, 2016.

provided political windows of opportunity or much-needed funds for its predetermined programmes: for initiating reforms (the 2003 Act), rural electrification (RGGVY), and computerization (R-APDRP). In the future this may also include a cautious embrace of a nationally led renewables policy, where financial carrots are available, as state planners seek portfolio diversification. Industrial interest in captive solar also suggests a route towards greater competition by the back door. Nonetheless, its rejection of UDAY suggests that New Delhi's ability to force a sea change in West Bengal's direction of travel is limited. Instead, the electric "island of excellence" will continue to be buffeted by wider political currents.

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