

Interrogating the pro-business tilt in the power sector

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India's power sector is a leaking bucket; the holes deliberately crafted and the leaks carefully collected as economic rents by various stakeholders that control the system.

—Deepak Parekh, then chairman of the Infrastructure
Development Finance Company, September 2001

1 Introduction

The notoriously troubled power sector provides an ideal lens on the political economy of contemporary India. It is fundamental to distributive conflicts, including the proliferation of 'populist' subsidies, 'pro-business' policies, and the politics of natural resource mobilization. Electricity and the state project have also been inextricably bound together for more than a century, and since 1991 the sector has witnessed almost a quarter-century of institutional restructuring to recalibrate the state's role. By the 2014 general election campaign it provided evidence of both 'crony capitalism' and 'policy paralysis'. For all these reasons, Arvind Subramanian (2012) compared it to the Dandi Salt March of 1930: 'Is power, or rather the power sector, today's salt—emblematic of both the pessimistic outlook and promise of India?'

This paper has two aims. First, it surveys the changing patterns of resource mobilization and allocation in the sector to shed light on the state's ostensible 'pro-business tilt' (Kohli, 2006a, b, 2012). Second, it examines the changing forms of power sector governance. The state's role and morphology have begun to shift to create a 'pragmatic hybrid', in which market institutions are 'graft[ed] on to rather than

replacing the state sector' (Dubash, 2011: 69-71). The state's changing form and functioning have provided the organizational underpinnings of a somewhat altered, if precarious, policy and distributional regime.

Across South Asia inadequate electricity supply is *the* biggest problem businessmen report facing (Ahmed and Ghani, 2007: 11). Improved power has become a major target of industrial lobbying. We might thus expect that a state undergoing a 'pro-business tilt' would alter policy to favour industrial and commercial consumers hit by both internationally uncompetitive electricity costs and, more importantly, low quality of supply. Instead, evidence from the contemporary power sector suggests that the pro-business tilt has been painful, incomplete, and geographically uneven. Subsidies for wealthy farmers and high levels of theft continue in many States. These now coexist with pro-business reforms, but of a character that have often favoured particular politically connected energy interests rather than business interests more generally. The result is a dual-track system, financed through the short-term exploitation of natural resources, Central state-owned enterprise revenues, and government influence on the financial system. Unlike its equivalents in resource-rich emerging economies, then, this hybrid system is neither stable nor coherent.

Section 2 provides an overview of the power sector's long-term problems. These have historically been rooted in the sector's chronic crisis of internal resource generation, based on below-cost tariffs, especially for wealthy farmers and domestic consumers, and high levels of power theft. These characteristics persist in several States. Section 3 examines the institutional response, the two decades of power sector reform since 1991. This includes changing forms of state intervention in the sector alongside the rise of both pro-business and pro-market strategies. These changes have brought in public-private collaboration, especially in generation, yet efforts to 'depoliticize' the sector through organizational innovations have had only limited success. The result is a dual-track system, but the sector ends by questioning the financial sustainability and therefore the sustainability of this compromise. Section 4 concludes.

2 Agricultural subsidies and theft in the power sector

From the first years of independent India, under the 1948 Electricity (Supply) Act and the constitution, electricity was marked by two compromises: between state and

private ownership, and central and State control.¹ Although public sector ownership was granted priority—a near-monopoly status reinforced by the 1956 Industrial Policy Resolution—existing private utilities continued to be tolerated. Power also features on the constitution’s Concurrent List, with responsibility shared between the centre and the States. In practice virtually all responsibility for the crucial distribution segment rests with the States, leading to significant regional variation.²

The crucial institutions were the State electricity boards (SEBs), vertically integrated monopolies under the control of State governments. By 1991, they controlled almost three-quarters of generation and virtually all distribution and tariffs. The 1948 Act anticipated that the SEBs would operate as commercial entities, generating increasingly large surpluses to become effectively self-funding. This swiftly proved unrealistic. As early as 1964, the Venkataraman Committee was established to examine the SEBs’ ‘unsatisfactory’ financial workings. Most SEBs came to operate as extensions of State energy ministries, relying on inconsistent payments from the State government.

From the 1960s the Indian power sector came to be characterized by increasingly large subsidies for agricultural users. Green Revolution policies helped to spread irrigated agriculture, which in turn meant the spread of electric tubewells and pumpsets, solidifying the ‘energy-irrigation nexus’. The number of electric pumpsets leapt from 192,000 in 1960-1 to over 1 million in 1968-9, while electricity consumption by the agricultural sector grew at an annual average compound rate of over 14 percent between 1960/61 and 1970/71. The beneficiaries of these subsidies tended to be wealthier farmers, able to afford to install and maintain tubewells.³

These burgeoning subsidies, alongside high levels of electricity theft (discussed below), financially crippled many SEBs and led to a cycle of persistent underinvestment and low performance in both the quantity and quality of electricity supply. With groundwater wells serving an estimated 75 percent of irrigated land today, India also became the largest groundwater user in the world, creating a burgeoning

¹ See Kale (2014: 28-43) on the extensive Constituent Assembly debates over power.

² The electricity supply industry consists of a series of segments. Generation refers to the production of electricity using a variety of primary fuel sources. Transmission is the delivery of electricity from generation plant to distribution point over high-voltage pylons and lines. Distribution refers to the so-called ‘last mile’: the delivery of electricity to retail consumers’ homes or businesses through a system of low-voltage wires. I concentrate here exclusively on on-grid power. Coal accounts for 59.6 percent of installed on-grid capacity (and around 70 percent of power generated in practice), compared to 16.3 percent for hydroelectricity (plus 1.5 percent for small hydel), 9.0 percent gas, and 8.4 percent wind. Nuclear and solar account for only 1.9 and 1.1 percent respectively (Central Electricity Authority data as on 31 July 2014; renewables data correct as of 31 March 2014).

³ In UP in 2008, for example, there were 729,000 tubewells but 35 million people employed in agriculture (Golden and Min, 2013: 92).

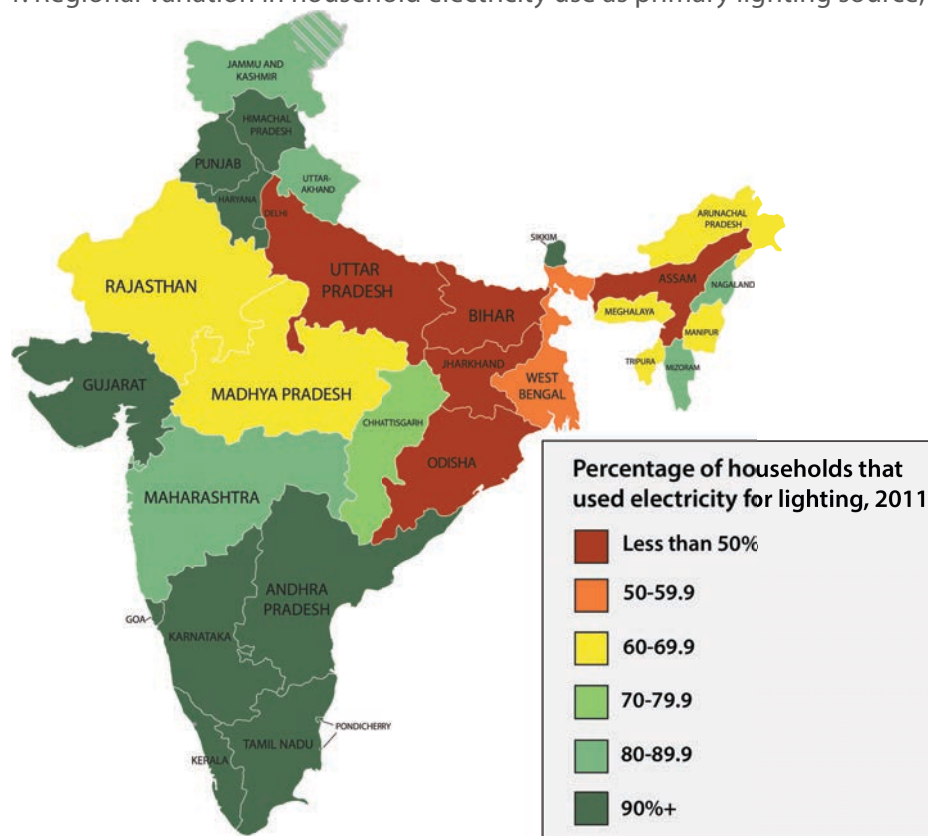
environmental crisis (Shah et al., 2007). While problems in generation (fuel scarcity, undersupply, and low plant load factors) and transmission (persistent underinvestment) have at various times also become concerns, it is thus in distribution that the sector's most persistent and fundamental problems lie.

This pro-agriculture shift was not regionally even. States in which farmer lobbies mobilized or gained influence within government enjoyed higher levels of rural electrification; rural electrification in turn reinforced the growing power of these groups (Kale, 2014). Increasingly intense party-political competition also led to downward pressure on agricultural tariffs as politicians competed to offer sops. Tamil Nadu, for example, enjoyed relatively high levels of rural electrification even before 1947, and turned early to cross-subsidization of rural electrification by industrialists. As a result it suffered from power shortages by the 1970s (*ibid*: 170). As early as 1968, Punjab turned to flat metering of agricultural power. In Maharashtra, Mumbai remained an enclave of private ownership even as State governments devoted major efforts to rural electrification (the power sector accounted for 40 percent of Maharashtra's planned allocations by 1978). The beneficiaries were especially the 'sugar barons' of the west of the State; and, as in Punjab, metered agricultural supply (often doctored in practice) was replaced by flat-rate tariffs in 1977 (*ibid*: 62-99). Nonetheless, with significant generation capacity additions, Maharashtra's utility was India's largest and the only profit-making SEB by the end of the 1980s, when the State claimed to have achieved full electrification.

These regional political economies of power are path-dependent, and their effects continue to be felt into the liberalization era (see Figure 1). Sunila Kale (2014) has persuasively argued that States with powerful farmer lobbies and high levels of 'wet' agriculture were *both* early rural electrifiers *and* have subsequently struggled to reform their power sectors. Such States, even those which are otherwise considered comparatively industry- and FDI-friendly, have struggled to raise electricity tariffs and struggle with a cycle of underinvestment and power cuts. Faced with elections immediately after the passage of the 'watershed' Electricity Act of 2003 (see below), Andhra Pradesh, Punjab, Maharashtra, and Tamil Nadu all promised free power to farmers. Reformist chief minister N. Chandrababu Naidu's 2004 election loss in Andhra Pradesh was widely regarded as a response to his push for power reforms. Party-political competition in Tamil Nadu, a power-surplus State in the early 2000s, blocked tariff revisions for eight years and led to a power crisis by 2012, when the government was forced to raise tariffs by 37 percent.

In contrast, States with less dominant farmer lobbies have often appeared better placed to undertake reforms or manage utility finances. Odisha, with the lowest contribution of agriculture to economic output of any State, became the unlikely pioneer of reforms in the 1990s despite the fact that its electricity utility was far from the worst-performing. Delhi's decision to privatize distribution is also seen as *sui generis*, given its small agricultural base and compact size. West Bengal, long characterized by 'redistribution without electrification'—perhaps because the large Calcutta Electricity Supply Company remained in private hands and could not be mined for resources (Kale, 2014: 170)—opted for utility restructuring in 2007. It subsequently became one of India's only profit-making utilities, whilst retaining a relatively high level of State ownership of generation capacity. Kerala, too, has an abundant supply of water and therefore low farmer dependence on pumpsets. Despite not unbundling, its SEB enjoyed high profits and low transmission and distribution (T&D) losses, at least until 2011 (when hydel generation began to decline).

Figure 1. Regional variation in household electricity use as primary lighting source, 2011



Source: Kale (2014: 3); Census of India (2011).

Agriculture has accounted for around 25 percent of total electricity consumption since 1990, but 4 percent of total revenue—and only 7 percent as late as

2011 (Pargal and Banerjee, 2014: 84). Underpricing, in which average billed tariffs fail to keep pace with increases in the cost-recovery level, remains a significant factor in driving losses in Tamil Nadu, Rajasthan, Andhra Pradesh, Punjab, Himachal Pradesh, Mizoram, and Nagaland (*ibid*: 77).

It is important to note, however, that the responsibility of agricultural subsidies for the financial plight of the power sector has often been exaggerated. Domestic consumption remains extensively subsidized. Farmer lobbies are not the only interests to mobilize to block tariff rises, as demonstrated by urban middle-class activism in Delhi (for example, through the United Residents' Joint Action, URJA) and the Aam Admi Party's stance towards tariff revision.⁴ Again, these subsidies largely go to elites rather than poorer households: in 21 States fixed or minimum consumption charges mean that low-consumption households pay more than higher-consumption households (Pargal and Banerjee, 2014: 84).

For many years agricultural subsidies were calculated as a residual, thus masking other forms of power theft. The extremely high levels of T&D losses in Delhi before privatization—up to 60 percent—suggest that urban constituencies are also often implicated, and on a scale that cannot be blamed on theft in urban slums. The then-power secretary argued in 2000 that the sector's problems had been misdiagnosed throughout the first decade of reforms: 'the reality is in a very organized manner electricity is pilfered by large consumers in industrial groups and high-income residential and commercial groups' (Shahi, 2005: 280). In October 2014 the all-India average aggregate T&D losses were 27 percent of power generated, five times the estimate for China. This high level of theft can be considered an informal subsidy. It is not simply a matter of micro-level corruption by utility officials but in some States is tacitly condoned: Min and Golden (2014: 624) demonstrate that in Uttar Pradesh tolerating power theft became 'part of deliberate political strategy', rising around elections.⁵

⁴ In this context of widespread capture by political elites, it is interesting to note that scholars continue to argue about the causal relationship between economic growth and electricity consumption. Econometric evidence for India appears to suggest that short-run economic growth causes increased electricity consumption, not vice versa (Ghosh, 2002), although others suggest that there is a bi-directional relationship between long-run growth in real GDP and electricity supply (Chen et al., 2007).

⁵ They suggest that the beneficiaries of theft may be the same wealthy farmers, as their supply is unmetered and so easy to expand (although the same may be true when users are simply stealing electricity or meters are tampered with). Politicized theft does not only comprise political capture by tubewell-owning farmers. Drawing on evidence from UP, Golden and Min (2013) find evidence *both* that wealthy farmers benefit regardless of the party elected, *and* that parties reward domestic voters in their 'core' strongholds (rather than those in swing constituencies).

There is wide regional variation in this figure, however: the top ten utilities had losses of only around 13 percent in 2011, while the figure for the bottom ten was 54 percent. High levels of T&D losses are often seen as a useful proxy for the quality of ‘governance’ and appear inimical to a growth-oriented ‘pro-business tilt’ (Smith, 2004). Between 1993 and 2009, Subramanian (2012) found a strong association between growth in a State’s net domestic product per capita and lower levels of T&D losses. Private investors also appear to draw a distinction: high T&D losses also appear to discourage private investment in the power system (Ahn and Graczyk, 2012: 40), although Joseph (2010) found a close linkage between 1994 and 2005 between industrialists’ resort to captive power plants—that is, their decision to exit the public system—and *both* high levels of agricultural pumpset consumption and/or high T&D losses. There is a distinction between States which combine ‘electric populism’ with utility governance reforms, and those with high levels of theft. In Table 1, regulatory intervention into underpricing might be the prescription for Groups 1-3, but attention would fall on distribution company operations in Group 4, in which tariffs are now set at cost recovery but utilities fail to make profits due to losses in distribution and collection (Pargal and Banerjee, 2014: 48, 81).

Table 1. Tariff performance and utility losses, 2011

Group	Description	States
1	Tariffs are not set at cost recovery but States achieve profits with subsidies	Andhra Pradesh, Rajasthan
2	Tariffs are not set at cost recovery and States make losses with subsidies	Assam, Bihar, Haryana, Punjab, Tamil Nadu, Tripura
3	Tariffs are not set at cost recovery and States make losses without subsidies	Goa, Himachal Pradesh, Manipur, Mizoram, Nagaland
4	Tariffs are set at cost recovery but States do not achieve profits even with subsidies	Chhattisgarh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Sikkim, Uttar Pradesh, Uttarakhand
5	Tariffs are set at cost recovery and State achieves profits with subsidies	Gujarat
6	Tariffs are set at cost recovery and States achieve profits without subsidies	Delhi, Kerala, West Bengal

Source: Pargal and Banerjee (2014: 81)

The foregoing account demonstrates that regional political economies are not static, of course. Several States with historically powerful agricultural lobbies have partially restored the financial health of their utilities. Gujarat provides an example of administrative action to recalibrate the subsidy regime. Under the Jyoti Gram Yojana

(from 2003), rural feeder loans were separated out into farm- and non-farm supplies, an idea recently imitated in seven other States.⁶ Several of the worst loss-making States have embarked upon reforms, including major tariff revisions in Tamil Nadu and reforms to imitate the Gujarat model in Madhya Pradesh. Institutional change is thus the other side of this story, as evidence mounts that virtually all categories of consumer would be willing to pay more for a higher quality of service and consistent (rather than free) power becomes the political promise of choice.

Despite this, in many—but not all—States, agricultural subsidies and power theft are declining only slowly. Today the most dramatic losses are concentrated in a small number of States. Accumulated financial losses are greatest in Madhya Pradesh, Tamil Nadu, Jharkhand, and especially Uttar Pradesh; Rajasthan, Meghalaya, and Haryana also have substantial debts (Pargal and Banerjee, 2014: 55-6, 61). In 2011, only Kerala, Delhi, and West Bengal had tariffs that covered costs and made profits without requiring a subsidy (Table 1).

The persistence of agricultural subsidies into the liberalization era led Pranab Bardhan (1998: 129-30) to single out electricity subsidies as evidence that ‘one should not exaggerate the extent of shift in the basic political equilibrium’. Fragmentation of de facto political power among interest groups and the multiple agencies of a complex federal energy bureaucracy leads to the expansion of consumer energy subsidies (Lockwood, 2014; Khan, 2000; Shleifer and Vishny, 1993). The continuation of such subsidies, albeit in somewhat more limited form, even after two decades of reforms provides evidence that this political fragmentation continues and several States continue to diverge from the reform course charted by the centre. The diagnosis remains a surfeit of ‘politics’, constraining possible solutions. As the then chairman of the Central Electricity Regulatory Commission stated in 2012:

The political economy of the sector is crucial. Utilities are nothing but extension of government...in developing countries. [But now sitting in the conference of power ministers, which pass the same resolutions each year] I feel that nothing has changed... Solutions must lie within the existing political settlement.⁷

Nationally, the gap between cost and revenue has virtually doubled since 2003. This is not primarily down to any expansion of subsidies and theft (although revenue

⁶ For a review of varying State experiences with the separation of rural feeders, see ASTAE (2014). While Gujarat has successfully controlled financial losses from the agricultural sector, evidence from Rajasthan is more mixed and losses and subsidies continue to rise.

⁷ At CRISIL power sector seminar, ‘Breaking the Impasse’, New Delhi, 7 May 2012.

gains through T&D loss reduction have somewhat tailed off in many States). Instead, it is due to rising interest costs and the sharply increased cost of purchased power, thanks to increasing fuel prices and poor power procurement planning (Bhattacharya and Patel, 2011; Pargal and Banerjee, 2014: 71-6).⁸ Nonetheless, the sector's older 'political settlement' constrains State utilities' ability to raise tariffs enough to compensate for these rising costs.

3 The state-market hybrid: a two-tier system?

This section turns from the sector's long-term problems with financial viability in the distribution segment, which have persisted across the contested 'divide' of 1991, to the attempted reforms from this year. By the late 1980s senior politicians were beginning seriously to discuss the prospect of private participation, at least at the margins of the sector (Department of Power, 1989). By 1991 cost recovery was only around 79 percent and the sector was making losses of around 0.7 percent of GDP. The power sector was therefore the first major sector opened to private investors. Since then it has witnessed three phases of reform.

The first phase amended the 1948 Electricity (Supply) Act to permit private players to enter the sector as independent power producers (IPPs) with long-term contracts to supply State utilities. The IPP policy did not deal directly with the politicization of the distribution segment, focusing narrowly on increasing generation capacity and thereby 'promising to support rather than dismantle the existing [political-economic] matrix' (Kale, 2014: 99). The rationale was not the efficiency gains sought in the global North, but primarily to mobilize financing and otherwise scarce capital, especially foreign direct investment. The policy is now widely regarded as a failure for its high costs and allegations of corruption, discussed below. Most promised IPP projects failed to materialize.

The second phase of reform was a period of State-level experiments with SEB restructuring, independent regulators, and the privatization of distribution. By 1993 the World Bank had drawn up its so-called 'global template' for power reforms (World Bank, 1993). This sought to address depoliticization and the distribution segment more directly through corporatization and privatization. As noted, the unlikely pioneer was Odisha, with heavy participation from international consultants. Several States

⁸ Uttar Pradesh and Bihar have especially resorted to buying expensive power from short-term markets. Along with Haryana and Punjab, they also resort to unscheduled interchange, weakening grid stability.

imitated its combination of an independent regulatory commission for electricity and SEB restructuring. Odisha's divestiture in distribution remained less successful. T&D remained extremely high, the distribution companies were using the state-owned transmission company as a free bank, weakening its ability to contract for new capacity, and the US-based multinational AES dramatically pulled in 2001. Only Delhi has followed, with a more domestically directed and gradualist programme to privatize distribution.

An economic slowdown in 2001-2, the policy fiascos of the 1990s, and the arrival of a more stable national regime in 1999 together provided fuel for more thoroughgoing reform. In the third phase, the centre took up the initiative through the drafting and (attempted) enactment of the Electricity Act, 2003. The final Act was seen as a watershed. In many ways it was a radical piece of pro-market legislation. Competition—oddly underplayed in India's power reform lexicon hitherto—superseded the thornier issue of privatization as a silver bullet. It was encouraged by mandating non-discriminatory open access to transmission lines and phased open access in distribution (though upon payment of a 'wheeling' surcharge to compensate the distribution licensee for any lost cross-subsidy); delicensing the generation segment; delicensing captive power plants; legally recognizing electricity trading; deregulating short-term and direct sales; envisaging the unbundling of the remaining SEBs; and providing a framework for franchisees in distribution.

The state's transition 'from provider to facilitator' ought not to be exaggerated in the sector, however. Today 35.6 percent of installed generation capacity is owned and financed by the private sector, compared with 27.2 percent for the centre and 37.2 percent for the States.⁹ This series of reforms has grafted market-oriented organizational forms onto the state-controlled, dirigiste system to produce a variety of new or reworked organizational forms. These include the iconic public-private partnerships and the import of nominally independent regulatory agencies in line with international templates, providing a more 'depoliticized' idiom for state intervention. Nor have more traditional forms of state activism been untouched by the market transition. State-owned enterprises continue to dominate much of the energy sector, but with a veneer of corporatization, governance reforms, and stockmarket listings. The state also continues to intervene to direct financial flows towards favoured sectors,

⁹ Central Electricity Authority data, 31 August 2014. Central state-owned enterprises, notably NTPC (formerly the National Thermal Power Corporation), in practice generate a more substantial share of power thanks to high plant load factors and good access to coal reserves.

including infrastructure, through a number of financial intermediaries, supplemented by private lending.

This organizational outcome—market-oriented but state-led—is distinctly different from the classic developmental states of East Asia (cf. Kohli, 2012: 219–220; see also Kohli quoted in Tillin (2013)). Other states that have retained an interventionist streak have also been far from immune to the Washington Consensus. Like India, Brazil and China also arguably combine modified state activism with an increasing emphasis on the market, nominally arms-length regulation, and public-private collaboration. Such combinations have been called ‘new developmental states’ in Latin America, ‘state capitalism 2.0’ elsewhere.¹⁰

This is not a hybrid that has functionally emerged, however, but the product of a process of layering. As state agencies are very difficult to demolish, reforms have simply overlaid new organizational structures atop the sediment of older organizations. The Indian state’s resulting organizational structure—multi-tiered and increasingly complex—provides multiple points of entry for new rent-seeking strategies and for resistance to these strategies, both through older state agencies and increasingly through courts and audit bodies.

While the reforms failed to address business interests as a whole (many of the sector’s problems with low-quality, high-cost supply remained), their course has favoured a second set of interests, especially in the initial years. Administrations have made several attempts to attract private investment in generation: ‘attracting capital became an end in itself, rather than a considered means’ (Dubash, 2011: 70). The provision of overly generous incentives, at least in the early years, without competitive bidding, acted to promote particular favoured energy interests.¹¹

The most notorious example of such a strategy was the IPP policy. For a year after the October 1991 amendment, and despite diplomatic efforts, ‘nobody came’ (Parikh, 2001: 1463). In 1992 Enron approached with a project that the finance ministry recognized as expensive but cleared in the hope that it ‘would give a signal to the world that India is open’ (Parikh, 1997: 221).¹² Policies and clarifications to provide attractive terms quickly followed, including a favourable rate of return, tax

¹⁰ On the market transition and reinvented statism (with a particular focus on Brazil), see Musacchio and Lazzarini (2014); and on China, see Yang (2004) and Hsueh (2011).

¹¹ Of course, the power sector has been characterized by corruption: of the 17 officials named in the scandalous Jain hawala diaries of 1991, 13 were from the power sector, including senior figures in central SOEs.

¹² Private conversation with then-finance secretary Montek Singh Ahluwalia, cited in Parikh (1997: 214).

holidays, Central counter-guarantees, a guaranteed minimum rate of return of 16 percent, and fast-tracking for eight projects (Dubash and Rajan, 2001; Shahi, 2005: 36-7). The outcome of the policy is well known. Financial losses, theft, and technical losses continued to swell, while the State governments' financial situations only worsened with their expensive new contracts. Of particular concern was the opaque fashion in which projects appeared to be granted, which led to accusations of favouritism and corruption.

The response prompted further reforms to combat the policy's excesses, bringing in model agreements and finally mandate competitive bidding. Alongside the long-term pressure to 'depoliticize' distribution, later phases of reform thus can be seen as attempts to discipline private and state-owned energy interests alike through market competition. The sector thus incorporates a marked tension between more 'closed' ('pro-business') and 'open' ('pro-market') tendencies in its turn to public-private collaboration.

Several fast-tracked IPPs, including Enron's Dabhol plant and the GVK Jegurupadu plant in Andhra Pradesh, also provide examples of the vulnerability of long-term power purchase agreements to tariff renegotiations. This is a persistent problem in Indian infrastructure sectors. More recent attempts to renegotiate the agreements over the Tata ultra mega power plant (UMPP) and Adani plant at Mundra, Gujarat, led critics to charge that renegotiations threaten the very principle of competitive bidding (Pratap, 2013). Politically connected firms are accused of making overly aggressive bids for UMPPs, solar contracts, distribution networks, and coal blocks in the expectation of gaining improved terms later.

In practice generous terms and discretionary access to soft loans, captive coal blocks, and land are still often offered, not only when competitive bidding processes go awry.¹³ The cases are familiar. For example, a Comptroller and Auditor General report on the Sasan UMPP found that Reliance Power had been permitted to use excess coal for a separate plant selling power at market rates; Tata and Reliance Power had also been permitted to retain excess land from two other UMPPs. The breaking of the 'Coalgate' coal block allocation scandal in 2012 revealed that some private power companies had received blocks through an extremely opaque system. The Jindal Group's Tamnar plant, Chhattisgarh, operating with captive mines, was permitted to sell virtually all its power at market rates, generating steep profits. Several companies

¹³ Only Tata and BSES (now part of Reliance Infrastructure) made a final bid in the privatization of Delhi's distribution companies. Failure to attract sufficient investors is a repeated problem, seen again in attempts to award a distribution franchise in Patna, for example.

existed only on paper, and had taken the opportunity to speculate on the blocks. Some experts fear that the recent ordinance, propagated in the aftermath of the Supreme Court's denotification of virtually all 'Coalgate' blocks, may not change the substance of this system (Rajshekhar, 2014).

As in the wider economy, the 'closed deal' world of the era of high mineral prices and high economic growth gradually brought about 'negative feedback effects' as the national regime's legitimacy fell (Sen and Kar, 2014). In such arguments central regulatory bodies play an ambiguous role. At the national level the more independently minded judiciary and the older regulatory bodies, including the Comptroller and Auditor General, stand accused of creating a climate of uncertainty for private participation in the sector. Several such projects have become stranded or financially unviable after changes in coal availability and prices. Closed deals upstream in the power sector proved especially difficult to legitimize in the longer term because the sector's performance remains poor in many areas. So, despite their broadly technical causes, the July 2012 blackouts became a 'bizarre Rorschach test' for more general political failings (Celestine and Sharma, 2012).

These rents for select energy firms uneasily coexist with State-level subsidies for local elites. First, competing interests dominate in almost parallel domains of the power sector. The system's financial problems are primarily down to distribution. Private participation is instead concentrated in generation and (to a lesser extent) transmission, but remains limited in the sector's more troubled segments. The private sector has also so far largely stayed away from making large-scale investments in rural electrification (Mukherjee, 2014: 13). The only two cases of distribution privatization, Odisha and Delhi, date from before the 2003 Electricity Act, while attempts to award franchises for ring-fenced urban networks have enjoyed mixed success in attracting bidders. As a result ethnographic evidence suggests that cost-benefit notions have failed to penetrate in many State distribution utilities (Ruet, 2005).

Second, as this suggests, the fragmentary nature of the state and the fragmentary character of the political settlement are mutually reinforcing. The increasing de facto federalization of India's political system has facilitated the creation of a two-tier policy process, with national governments able to blame States for many policy failures (Kohli, 2012). Regional divergence in power systems, from the much-trumpeted success of Gujarat to the failures of Uttar Pradesh, provide further fuel for 'provincial Darwinist' conceptions of interjurisdictional competition. The most dramatic outcomes of this federal conflict were the blackouts of July 2012, in which

the ‘desperate efforts’ of the regional load dispatch centre to impose discipline on State dispatchers were ignored. The grid disturbances prompted an escalating federal blame game—but inter-State lack of grid discipline was a frequent concern before this point. This prompts a question raised as early as the 1970s (Henderson, 1975; Department of Power, 1980): is the region or nation a better unit of electricity management, less open to capture, rather than the State level?

The state’s fissures are not only vertical. Horizontal competition between state agencies and ministries also until recently undermined comprehensive energy planning by institutionalizing representation for naturally opposed interests—like the power and coal sectors—in different bodies at the apex of the state. In such a ‘byzantine and fragmented’ bureaucracy, India has had virtually no coordinated energy planning (Dubash, 2011: 67). Whether the current trend of centralization under the new government bears fruit remains to be seen.

The central government retains a variety of instruments to attempt to reorient the sector away from the older subsidy regime. It uses its not considerable financial sway as both carrot and stick to incentivize reform compliance, both rewarding restructuring and disciplining States for underperformance. State-owned term-lending initiatives have been used to push for reform: before regulators became mandatory, the centre agreed to grant interest subsidies on Power Finance Corporation loans only to States that had set up regulatory commissions. In 2013 the power ministry issued ratings for discoms to encourage more risk-sensitive lending, again using the Power Finance Corporation to direct resources. Centrally sponsored schemes like the Accelerated Power Development and Reforms Programme are increasingly used as levers, bypassing State governments to deal directly with utilities and thus resembling ‘a stealth-like return to an interventionist state’ by ‘implement[ing] the center’s policy preferences in the guise of state programs’ (Rudolph and Rudolph, 2010: 158).¹⁴

The centre’s ability to harden budget constraints are limited in practice, however. States can circumvent controls, for example through underpayments to central generation firms, market borrowing, or using capital allocations to cover operating costs. The centre’s incentives for improved performance have also been weakened by political exigencies and the need to avoid financial contagion from overexposure to non-performing assets in the power sector, creating moral hazard. This led to the second large-scale central bailout in a decade. As one World Bank consultant

¹⁴ Other centrally sponsored schemes include the Rajiv Gandhi Grameen Vidyutikaran Yojana for rural electrification and, most recently, the Deendayal Upadhyaya Gram Jyoti Yojana to incentivize rural feeder separation.

wrote, ‘the pattern of a central government-funded bailout for the power sector every decade looks set to continue’ (Mukherjee, 2014: 15).

Third, other policy initiatives resemble attempts to institutionalize a twin-track system. Given the persistence of cross-subsidies and low-quality power, industrial and commercial consumers have an incentive to exit the public system. Increasing numbers of industrial and commercial consumers opted for captive generation from the 1980s on, despite its greater cost. (Others may have illegally exited through meter tampering and other forms of theft; see Smith, 2004.) This offered a bottom-up opportunity to leverage reform, increase private investment, and bring in competition as lucrative customers abandoned SEBs. The open access provisions of the Electricity Act thus appear a pragmatic attempt to institutionalize the exit option for high-value customers. For Joseph (2010), this marks an attempt to reform distribution by the back door while avoiding directly antagonizing agriculturalists or State governments. (In practice, however, many States have remained reluctant to cede control over such lucrative customers, resorting to high wheeling charges. Failure to bring in time-of-day tariffs also makes power from old State plants cheaper than that from many newer options, while true retail competition also remains difficult in the context of endemic power shortages.)

Increasing attention to urban distribution franchises, the rise of short-term market power purchases alongside long-term contracts, and special economic zones with dedicated power plants echo this creation of a parallel system. Without decent regulation, such a solution risks ceding ‘all the family silver (big cities, industrial areas, and SEZs)’ to private players (Kumar and Chatterjee, 2012: xiii). Lower-revenue consumer categories, such as rural areas and other small, poorer consumers with latent supplies, will be left to increasingly decrepit State utilities.

How sustainable and stable is this two-tier system, then? India is not unique in its continued state intervention in the energy sector and heavy consumer subsidies for electricity: 40 percent of global energy subsidies are found in developing countries (Lockwood, 2014: 3). Hybrid state-market power systems are found in a number of other large emerging economies. Reviewing the evidence across five countries, utility regulation specialists conclude that such hybrid systems offer a distinct and stable alternative to the ‘global template’ for power reforms:

a ‘dual market’, combining attributes of the state- and market-based systems... While not the most economically efficiency outcome, the dual market arises and is held in place by strong political forces that favour a system in which

parts of power generation and delivery are profitable even as other parts are plagued by nonpayment, inadequate investment, and economically inefficient operation. (Victor and Heller, 2007: 30)

In this vein, Joseph (2010) likens the Indian power sector to the ‘dual-track economy’ proposed as China’s successful reform strategy (Naughton, 1995; Qian, 2003). The Electricity Act’s emphasis on open access for large consumers, she suggests, may permit ‘reform without losers’.

Such an assessment appears complacent in the current scenario. In contrast to many other subsidy-heavy countries, India is not fossil fuel-rich. The dual-track system has instead been funded through short-term means. India’s natural resources are directly passed on to both private power players, as well as through persistent coal theft (often with the collaboration of party politicians and bureaucrats).

Second, profitable power and energy central state-owned enterprises are milked for resources through dividends, divestment (including cosmetic divestment—share buybacks and cross-holdings among SOEs—when private demand has been weak), underpricing, nonpayment by State utilities, and the transfer of assets to private firms. SOE divestment thus appears less a consistent project of ‘vacating the commanding heights of the economy’ than an attempt to mobilize resources, as the government remains the majority owner in such successful firms.¹⁵

Third, public sector banks and term-lending institutions have bolstered investments in the power sector, providing loans at below-market rates. New infrastructure finance corporations have developed bonds and partial credit guarantees to push up ratings and thereby encourage long-term investments by pension funds and insurance companies. State Bank of India and the Life Insurance Corporation have also been used to prop up share sales in NTPC, Powergrid, and upstream firms. Private investment, too, demonstrated ‘irrational exuberance’ in power financing until the fuel supply crisis began to bite (Bhattacharya and Patel, 2011).

This direction of investment helped to bring about the impressive capacity additions of the Eleventh Five-Year Plan, based on target-beating private investment. As growth has slowed and the fuel crisis worsened, though, the result has been to leave

¹⁵ SOE prospectuses make it clear that the state sets their direction and ‘could require us to take actions designed to serve the public interest in India and not necessarily to maximise our profits’ (NTPC red herring prospectus, 2010, xxviii-xxix). This prospectus was submitted to the securities market regulator, the Securities and Exchange Board of India (created in 1992), in advance of NTPC’s February 2010 follow-on public offering, and is available at <http://www.sebi.gov.in/dp/ntpcpros.pdf>. This offering of 5 percent received a far less enthusiastic response than NTPC’s initial public offering. It raised ₹8,480 crore—but around half was of the subscription was taken up by state financial institutions. By September 2012 Life Insurance Corporation held a stake of 6.03 percent.

the banking sector overexposed to ‘subprime lending’ in the stagnating power sector. Non-performing assets went up almost ten times between September 2011 and September 2012, leading commentators to speculate about the risk of financial contagion.

The two-tier strategy thus has obvious limits. Mukherjee (2014) sees the escalating fuel supply crisis since 2011 as marking a new phase for the power sector. The inability of the sector to overcome the problems of distribution mean that ‘a point comes when private investors and their commercial lenders reach their risk tolerance threshold and retreat to the sidelines’ (*ibid*: 12). Indeed, this system appears *deliberately* unsustainable, forcing reforms on sectors and provinces (rural areas, ‘neo-patrimonial’ States, perhaps even the coal industry) that have hitherto proved slow to change.

4 Conclusion

It is risky to draw general conclusions about distributive politics from the study of a single good. Governments may favour different constituencies with different goods (Kramon and Posner, 2013), and different strategic logics of state intervention may apply more to some sectors than others (Hsueh, 2011). A consideration of the upstream sector suggests that particular privileged firms have benefited from close links to the state, although these ‘closed deals’ are now under pressure from the courts and regulators. In many States, however, the ‘last mile’ of distribution shows patterns of underbilling and theft that imply a different form of local elite capture. Even today, landed interests retain great influence in some States. At present this two-track system of rents does not appear a sustainable or stable outcome.

The existence of this two-track system is embedded in the complex institutional structure of the liberalization-era state itself. This paper has (alas, all too briefly) sketched its transforming outlines. The state still directs and intervenes in the sector, albeit through organizations that at least *appear* new in form, if somewhat less so in function (like corporatized SOEs, non-banking finance institutions, independent regulatory agencies, and public-private partnerships). Its federal and horizontal fragmentation is inseparable from the fragmented system of rents it underpins.

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