POWER POLITICS

Rent-seeking, Climate Change and the Indian Electricity Sector

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Glossary and Abbreviations

CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CPP	captive power plants
distribution	delivery of electricity received on transmission lines at distribution centre to retail consumer's home or business through system of low-voltage wires, poles and conduits running along public highways
generation	actual production of electricity, using variety of fuels e.g. coal, natural gas, nuclear
GoI	Government of India
IPP	independent power producer
NAPCC	National Action Plan on Climate Change
NGO	non-governmental organization
SEB	State Electricity Board
SERC	State Electricity Regulatory Commission
State	capitalized to clarify the difference between national governments ('states') and India's 28 subnational, federal entities ('States') (plus an additional 7 Union Territories, of which only Delhi features here)
transmission	delivery of electricity from generation plant to distribution point over high-voltage pylons and lines
UNFCCC	United Nations Framework Convention on Climate Change

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1

Introduction

> 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, Chairman of the Infrastructure Development Finance Corporation (quoted in Ramakrishnan 2001)

> Except for being rotten, it is a success.
>
> – *The Economist* on Italy (1993)

Climate change is 'the defining challenge of our age' (United Nations Secretary General Ban Ki-Moon, quoted in BBC News 2007). Many commentators have been disappointed by the responses of most countries. This essay seeks not merely to lament these responses but to examine them, with particular reference to energy policy and, more specifically, the production of electricity in one 'rising emitter', India.

The issue of climate change has been described as the 'perfect moral storm' (Gardiner 2008) because of its protean complexity, multiple ethical dilemmas and defiance of neat, consensual solutions. The problem has been given a particularly invidious cast by the use of China and India as justificatory scapegoats for other countries refusing to take action on climate change. The Byrd-Hagel Resolution

(1997) against the Kyoto Protocol, passed by US Senate 95-0, presented as its rationale the fact that emissions cuts (for developed countries only) could 'because of disparity of treatment…result in serious harm to the United States economy', singling out as particularly energy-hungry and dangerous rivals 'China, Mexico, India, Brazil and South Korea'. David McIntosh, chairman of the House of Representatives Subcommittee on National Economic Growth, Natural Resources, and Regulatory Affairs complained that it was 'patently unfair…[that] these countries will be free to develop and pollute all they want, while the US economy goes into a deep freeze' (Roberts & Parks 2007: 11).

A nation's response to the climate change threat is inextricably linked to its electricity sector; so too is its economy. It is within this uncomfortable intersection of 'growth' and 'environmental change', where conflicting policy priorities collide, that this thesis is situated.

Electricity contributes around one third of global carbon dioxide (CO_2) emissions today. The production and supply of electricity encompass several interlinked stages (Fig. 1). In many ways, it makes for a highly unusual supply chain.

Fig. 1. The electricity supply chain: functional stages

Certain crucial stages can be seen as a natural monopoly: transmission and distribution require a grid, and it is usually simply uneconomic to have more than one grid in the same area (Panagariya 2008: 383). Very unusually, too, electricity cannot be stored but must be produced instantaneously to satisfy immediate demand – so there cannot be 'strategic electricity reserves' akin to those for oil. Moreover, barriers to entry are high because of the huge capital outlays required to invest in generating plants and grid upgrades and extensions. These features prompted US

deregulation guru Alfred Kahn to admit 'I am worried about the uniqueness of the electricity markets… It may be the one industry in which [vertical integration] works well' (quoted in Dubash & Singh 2005*b*).

Not only does electricity have unique physical properties, but it also has a peculiar social and cultural 'quiddity' (Harriss-White 2003; see also Appadurai 1986). It is not seen as an archetypal commodity. Like the automobile (Paterson 2007), although it is not innate to the capitalist system it has become inextricably linked to the globalized, financialized post-Fordist economy and lifestyles. Its centrality has been recognized by the United Nations: while electrification is not one of the Millennium Development Goals, improved energy services been consistently recognized as 'necessary for meeting almost all the Goals' (Sachs et al. 2005). It is virtually seen as a right in the West, as the European Commission recognized when designating it a 'service of general economic interest' requiring governmental guarantees on price, quality and accessibility. While for the majority of Indians it is still something of a luxury, manufacturers, service providers and the middle and upper classes almost worldwide recognize the centrality of energy to their livelihoods and lifestyles (McDonald 2009).

This paper uses the electricity sector as a lens through which to view broader ideas about state-society relations and how they shape possibilities for responses to the threat of climate change. This examination is conducting through an investigation of the electricity sector; the institutions and organizations which structure it; and the rent-seeking activities which take place inside it. The central question that this thesis seeks to answer is: what are the power dynamics within this institutional architecture, and what is its potential for change? The main argument of this thesis is that the Indian polity's federal structure is the central configuring institution within the sector, and that certain dynamic Indian States demonstrate the potential for progressive and far-reaching change in both energy and climate change policy. This

potential is particularly illuminated by international comparison, and so the paper concludes by turning the same analytical lens on the British electricity sector – with provocative results.

The structure of the essay is as follows. Chapter 2 sets out the paper's theoretical framework. It outlines Douglass North's (1990) theory of institutions and institutional change, though conceiving institutions more broadly than typical 'new institutional economic' studies. Organizations develop to take advantage of this institutional matrix. Secondly, it is within this matrix that different types of rents are created and contested. The chapter outlines Mushtaq H. Khan's theory and typology of rents to provide a more specific lens for analysis of the power dynamics of the institutional matrix.

Chapter 3 gives a description of the institutional architecture of the Indian power sector, from the broadest global-cultural norms to informal and formal institutions in India itself. Particular emphasis is placed on the importance of the federal system in providing altered institutional opportunities for rent-seeking in different States. The chapter draws attention to the most significant organizations that attempt to take advantage of this institutional matrix. Finally, this architectural description enables the demarcation of the most significant patterns of rents and rent-seeking working within the matrix.

Chapter 4 draws on this evidential map of institutions and rents to draw conclusions about the political economy of India more broadly, given the modern ascendancy of electricity. It notes wide State variations in the character and results of rent-seeking, ranging from semi-anarchical competition to a dynamic reciprocity between 'business' and 'the state'. Drawing on empirical data, it suggests that rent structures affect performance both negatively and positively, and that the half-liberalization of the energy sector seems only to be commensurable with one ideal type of this structure. This demonstrates the inadequacy of Khan's theory to capture

the federal dynamics of the Indian system; he thus entirely misconstrues its developmental potential and political economy (Khan 2000*b*). Lastly, it sketches out a comparison with the institutional and rent structure of the British electricity sector. This delivers far more consistent service than that of any Indian State and its structures of rents and rent-seeking are much more stable. My theoretical framework suggests, however, that this means institutional change is less likely in the UK, and the British government has correspondingly less room to manoeuvre on the related but distinct issues of climate change and energy security.

The final chapter draws together these strands to come to some provisional judgments about the Indian state(s) and its room to manoeuvre in energy policymaking. It concludes that, although climate change is not the dominant paradigm for Indian energy policymakers at present, to depict them as rising villains of the climate change piece does not do India justice. Certain more dynamic Indian states show greater potential for progressive institutional change on the energy front than their British counterpart.

It is worth a word on what this essay is *not*. It is not especially concerned with rural electrification, nor is it intended to be a comprehensive description of the electricity structure and its evolution; both of these topics have already been covered in the literature.[1] It is not a contribution to 'scientific' debates over the most appropriate energy portfolios for the future and attempts to steer clear of most technical jargon,[2] and it does not attempt to address philosophical concerns.[3] Instead, it is an ambitious political-economic intervention into the literature on energy sectors and political responses to climate change.

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[1] In particular, see Dubash & Rajan 2001, Lamb 2006 and Tongia 2003 for meticulous examples of the latter. I am indebted to their empirical thoroughness for much of the data presented in Chapter 3.

[2] The purely 'scientific' nature of many such predictions and prescriptions in the climate change and power field is, of course, highly specious (Forsyth 2003; Hulme 2009).

[3] For ethical insights, see for example Beckerman & Pasek 2001, Roberts & Parks 2007 and Vanderheiden 2008.

2

THEORETICAL FRAMEWORK

This chapter presents the conceptual and analytic framework that will be used throughout the paper. It draws broadly on the social-scientific current known as 'the new institutionalism', with institutions defined generously and acting and interacting on multiple levels. Within this skeleton, it uses Mushtaq H. Khan's stimulating theory of rents and rent-seeking to provide a more tightly focused and specific lens, in order to analyze the distribution of political-economic power within the institutional matrix. The energy sector is one in which several important types of Khanian rents coexist, with both negative and positive effects. The institutional framework has major impacts on these rent-seeking opportunities. These two frames of analysis are thus complementary.

Studies of the Indian electricity sector tend to be descriptive and narrow in their focus, primarily focused on deconstructing neoliberal policy models. They typically narrate the various flawed outcomes of gradually applying the World Bank-endorsed 'standard model' of privatization to the Indian context (Dubash & Rajan 2001; Dubash & Singh 2005*a*, 2005*b*; Lamb 2006; Mahalingam 2005; Sarma 2007; Singh 2005; Tongia 2003). While these explorations have been empirically meticulous,

their analytic objectives have been limited, usually to a handful of policy prescriptions for alternative technical and administrative reforms. Furthermore, although they have noted the apparent uniqueness of several aspects of the Indian case, they have for the most part subjected this 'exceptionalism' to rigorous theoretical scrutiny.

Debates over the state structure and characteristics that encourage most effective action on climate change have also lacked analytical ambition. Many interpretations do not deal in politics at all, instead staying on the relatively safer ground of technological prescription (Calvin 2008) or even disaster sensationalism (Lynas 2007). This is the compromise made by the technocratic Indian National Action Plan on Climate Change (NAPCC 2008), condemned therefore to be 'neither fully vision nor plan' (*Economic and Political Weekly* 2008). Several mainstream and populist writers are content to speak optimistically of climate change 'mitigation' as requiring little or no political change (Friedman 2008; Giddens 2009), or claim that grassroots movements offer similar reassurance (Miller 2009; Rabe 2004). They have thereby managed to all-but-depoliticize political climate change reactions and occlude critical debates on the relationship between key actors in defining these responses.

Interpretations that do dare to engage with these issues are often stridently polemical. One influential interpretation holds that 'neoliberalism' (now a pejorative term) is inextricably linked with environmental exploitation and destruction. Electricity is central to this account (McDonald 2009). Governments are claimed to be the hapless stooges of a 'cabal' of fossil-fuel-guzzling capitalists and lobbyists hell-bent on commodifying nature (Heysen et al. 2007; Leys 2001; Lohmann 2009; Monbiot 2006, 2007). Some authors have gone as far as to proclaim that democracy – because of its links to materialistic, consumerist individualism – is inherently environmentally destructive and that an enlightened technocratic despotism would be preferable (Shearman & Smith 2007) – although they notably ignore the terrible

record of most authoritarian countries on climate change. These interpretations, however, seem largely incapable of comparatively analyzing the state and societal structures and relationships which constrain and shape energy policy, save to use the example of other countries as a stick with which to beat the home government.

This paper seeks instead to systematically map and analyze (a) the interest group and power architecture which shape the Indian energy sector; (b) the light this throws upon the political economy of India more generally; and (c) the consequences this has upon climate change effects and responses, especially the 'room to manoeuvre' that this leaves policymakers. A useful skeleton, able to accommodate individual and collective actions with a variety of motivations as well as different layers of scale, is provided by the new institutionalism.

2.2 New institutionalist foundations

According to Douglass North's oft-celebrated definition:

> *Institutions* are the rules of the game in a society, or, more formally, are the humanly devised constraints that shape human interaction. In consequence they structure incentives in human exchange, whether political, social, or economic. (North 1990: 3, emphasis added)

Institutions are both formal and informal, and affect the costs of exchange and production. They are relatively stable structures but are *not*, contrary to older 'institutional Darwinist' theories, necessarily efficient. Notably, too, because they 'give rise to social practices, assign roles to the participants in these practices, and govern the interactions among the occupants of the various roles' (Young et al. 2008: xiii), institutions also define, limit and provide the opportunities for 'rent-seeking'.

Organizations are distinct from institutions in North's definition. While institutions (as well as the traditional constraints of economic theory) 'determine the opportunities in society', organizations are 'groups of individuals…created to take advantage of those opportunities', 'material entities typically possessing personnel,

offices, budgets, a legal personality, and so forth' (North 1990: 7, 5; Young et al. 2008: xiii). These organizations may also be 'a major agent of institutional change', as 'entrepreneurs in political and economic organizations' decide (from the incomplete information available to them) 'that they could do better by altering the existing institutional framework by some margin' (North 1990: 5, 8). However, such alterations carry costs and also may be resisted by organizations benefiting from the status quo.

2.1.1 *Scales and human complexity*

Twin strengths of the new individualist approach are its recognition of multiple hierarchical and chronological scales of analysis, and its accommodation of a more complex theory of human action, motivations and cooperation. The former at least theoretically permits the simultaneous and integrated study of various levels of 'institutions' from the broadest and most longstanding to the detailed micro-analysis of transactions. This analysis is concerned with Oliver Williamson's (2000: 597) first, second and third levels of institutions. Level 1 includes 'embeddedness': informal institutions shaped over a relatively long duration, such as traditions, customs and norms. Level 2 Williamson calls the 'institutional environment': formal rules of the game, especially property laws and the constitutional polity. Level 3 is that of short- to medium-term 'governance'. (Williamson's fourth level the paper leaves to neoclassical economists.) This means that the analysis encompasses aspects of 'social' and 'political theory' (Levels 1 and 2), as well as Mushtaq Khan's more focused lens.

The approach's second strength is that the premise of individual rationality is not inherent. An alternative 'social-practices perspective' appreciates that individuals may process normative and not simply utilitarian motives, that individual preferences are shaped in part by group membership, and that compliance with institutional rights and rules is often habitual rather than a process of continually

rational decisionmaking (Young 2008: 7). This more complex set of individual motivations, like that proposed by Max Weber (1978), has found favour amongst sociologists and anthropologists (Horscroft 2009). Energy and environmental problems are understood imperfectly through incomplete information, shifts in framing discourse, and subjective judgments; the construction of energy policy is therefore not necessarily 'rational' (Fischer 2003; Hulme 2009). Drawing on psychology, this 'social-practices' approach argues that institutions like discourses and norms are 'sticky'; once they become firmly embedded in the thought processes and operating procedures of actors in a particular polity, they resist change. Sluggishness in responding to the problems of energy sector inadequacy and climate change, therefore, may reflect *either* opposition on the part of influential interest groups *or* the failure of championing of the issue to overcome the status quo in terms of socialization and expectations – or both. This analysis focuses on the former factor, yet preserves an underlying awareness of the latter. Institutions and organizations both cause and exacerbate the problems and potentially provide solutions.

2.2 Mushtaq Khan's theory of rents

2.2.1 *Definition and outline*

Within this theory of institutions, institutional change and environmental change, this paper draws particularly on the revisionist political economy of rents and rent-seeking proposed by Mushtaq Khan (2000*a*, 2000*b*, 2004, 2006). Khan (2000*b*: 70*)* draws on insights from this institutional economics, noting that 'rents and the economic rights [and incentives] underpinning them are closely related' and that '[r]ent-seeking is, therefore, closely related to processes of institutional change through which economic rights are altered'. Political and institutional variables help

determine both the input costs of rent-seeking and also the rent 'outputs' produced by the rent-seeking process. He moves far beyond the traditional analysis of rents as efficient and monopolistic (Krueger 1974). Certain rents in some circumstances can produce dynamic results, and those pressing for inclusion in rent benefits may help to inform institutional change and innovations. The advantage of Khan's framework is its specificity, enabling a close concrete analysis of the dynamics and beneficiaries of a particular institutional framework.

Khan sees the orthodox definition of a 'rent' as an income above normal 'in a *competitive* market' as unsatisfactory, given that 'the competitive market of theory does not usually exist'. Rather:

> A more useful definition is an income which is higher than the minimum which an individual or firm would have accepted given… his or her next-best opportunity. (Khan & Jomo 2000: 5; see also Khan 2000*a*: 21)

These 'excess incomes' are funnelled and acquired through a variety of societal institutions, both formal and informal. Because rents represent higher incomes, they take on the character of an asset, which the economic actor has incentives to create, enlarge and maintain – the activities known as 'rent-seeking'.

Neoliberal orthodoxy asserts that the removal of institutions and rights that protect rents is *always* desirable in the name of efficiency. Khan, however, treats rent-seeking not as an unmitigated evil but as a process with differential outcomes. Any rent-seeking or 'corrupt' transaction 'is a type of "exchange" and, therefore, has two components' and two economic effects. One, the bribes and extortion which have attracted most conventional attention, equals a measurable cost of 'rent-seeking' in terms of higher costs of business or lost investment due to uncertainty; 'The overall effect of this part of the transaction' is, indeed, 'therefore very likely to be negative'. The second effect, however, is *not* always negative. Some interventions may be growth-retarding, for example the creation of monopolies or overlooking fraud, the features of rent-seeking on which conventional analysis focuses. However, others

may actually be productivity-enhancing, despite the cost of the bribe – for example, where public officials transfer resources to productive uses or rents create incentives for innovation or the adoption of best practice (Khan 2006: 206-7). Following this, Khan (2000*a*) outlines six different types of rents, outlined below.

2.2.2 *Khan's typology of rents*

(a) *Monopoly rents*

Much neoclassical analysis of rents has focused on condemnation of the negative efficiency implications – and ensuing social cost – of this form of rent. They criticize it for encouraging allocative efficiencies and inflated demand prices (if left unregulated). Khan agrees with elements of this critique (2000*a*: 32). However, he has several qualifications. Many monopolies are natural, created not by artificially high entry barriers but by economies of scale. Khan also notes that more efficient management and lower costs do not require 'the *perfect* competition of the neo-classical model where all rents are absent'; a small number of vigorously competing firms – which may still exercise market power and keep prices above marginal cost – will suffice. The orthodoxy also ignores the dynamic nature of technical progress and the incentives for innovation – Schumpeterian rents, discussed at (d) below.

(b) *Natural resource rents*

Scarce natural resources, such as fishing waters or pasturelands, produce opportunities for quite different monopolies. If such resources are opened to competition, the resulting inefficiency can be highly damaging as each individual, in attempting to profit himself, contributes to the destruction of the common good. This collective-action problem is known as 'the tragedy of the commons' (Hardin 1968), the greatest example of which is the situation of the Earth's atmosphere, rainforests and fisheries today. Khan subscribes to the 'privatization' school of thought on management of this issue (Ostrom 1990), believing that bestowing monopoly private

property rights over the commons can prevent dangerous overuse. In the context of global resources, of course, the solution looks nearly impossible to implement.

(c) *Politically organized transfers*

'Rent-like incomes can also be created by transfers organized through the political mechanism' (Khan 2000*a*: 35). This ubiquitous category includes rents of divergent ethical characters, which can be distributed from taxation income as subsidies or through less salubrious means, including the transfer of property (in India, often land) by both legal and illegal means. On one hand this can include ensuring political stability by buying off troublesome groups or ensuring a certain level of income to avoid unrest among the 'masses' (Khan 2006). On the other, such transfers can perform a role potentially equally valuable, as the basis for the 'primitive accumulation' of assets, which in turn can facilitate the emergence of 'modern' capitalism and the middle classes. Such transfers are almost invariably damaging to social welfare in the short term – they are criticized by orthodox economists as causing an incentive loss for taxpayers – and are not guaranteed to encourage development. Primitive accumulation may spiral beyond the 'necessary' to encourage a culture of theft, extortion and intense conflict over access to transfers. Nonetheless, increased rates of capitalistic growth *may* capitalistically assist the poor in the longer term, through trickle-down benefits (Khan 2004: 166). This potential effect, wholesale social transformation, is largely ignored by the conventional literature.

The following rents (d-f) are closely related, in that they all concern information costs or failures to some degree. They are instrumental in providing incentives for technological and institutional progress.

(d) *Schumpeterian rents for innovators*

This category of rents in some ways works like a monopoly or natural resource rent. It creates incentives for innovation and risk-taking in much the same way as for the efficient use of a scarce resource. For Joseph Schumpeter (1962) the entrepreneur who managed to obtain these rents was the symbol and hero of the 'creative destruction' central to the capitalist system. The advantage for the innovator is similar to a monopoly rent, given that they are able to earn a higher return due to the lower costs or higher quality of the innovation, and that the new knowledge is non-reproducible in the short term. Because of the cheaper or higher-quality product, the consumer gains a consumer surplus, which is larger the more rapidly other firms can imitate the innovation. If, however, there is very slow imitation, the innovation may begin to behave like a monopoly, with the problems this entails.

(e) *Rents for learning*

This applies primarily to developing countries, where 'productivity growth usually led not by growth but by learning' (Khan 2000*a*: 47), including both the copying of existing technologies and significant adaptation to local conditions. The state often provides substantial support for such learning, to incentivize progressive risk-taking behaviour when investors are reluctant. Crucial, however, is the ability of the state to withdraw subsidies after a set time period (a 'ring-capped' subsidy) or when it becomes clear that the recipients are failing to perform; yet withdrawal cannot be so abrupt and unpredictable that there is a climate of mistrust between firms, investors and the state. Khan also stresses that these rents have drawbacks because they are funded directly or indirectly by other sectors not acquiring rents. This paper notes, however, that through mechanisms such as the CDM the Indian state can acquire the necessary resources from external sources rather than through taxation and earmarking its own revenues.

(f) *Rents for management and monitoring*

Rents for management or monitoring operate in a similar style to (e) above. Management rents are accrued for more efficient and advanced management and discipline techniques. These are also linked to the costs of information ('monitoring') and the benefits of innovation. Crucially, this is based on the Marxian view that some of or all of profit is a surplus much like a rent, in that it depends critically on the degree to which the capitalist can control the labour process rather than on the neoclassical model's linking of the rate of profit to the value of the marginal product (Khan 2000*a*: 53). They create incentives for particular 'political' roles in terms of disciplining labour and suppressing workplace conflicts. 'Monitoring rents' can, for example, prevent banks from lending to borrowers with no intention of repaying and thus avoid market breakdown.[4] However, state interventions (often aimed at creating learning rents for industry by keeping borrowing rates artificially low) reduce this incentive. Khan (2000*a*: 60-63) also notes that historically financial institutions are actually more likely to be implicated in primitive accumulation by emerging classes.

The potential differences between these rents and their efficiency and growth implications are summarized in Table 2.1 below. This systematic analysis of rents and rent-seeking will be applied to the Indian power sector in Chapter 4.

Table 1. Relevant growth and efficiency implications of different rents (Khan 2000*a*: 68)

Type	*Efficient?*	*Growth-enhancing?*	*Observations*
Monopoly rent	No	Unlikely	'Sometimes difficult to distinguish from Schumpeterian or learning rents'
Natural resource rent	Yes	Likely	

[4] However, as Keynes pointed out, stock market information rents are actually relatively weak in inducing efficient investment allocation. Stock market crashes, for example, may be driven by rapid changes in investor sentiment more than underlying changes in fundamentals.

Rent-like transfer	Neutral, with possible incentive inefficiencies	Indeterminate	'May be essential for primitive accumulation and to maintain political stability, but may also become inefficient very rapidly'
Schumpeterian rent	Maybe	Likely	'May become monopoly rent if it persists for too long'
Rent for learning	No	Maybe	'Efficiency may depend on monitoring and enforcement ability of the state'
Rent for monitoring	Maybe	Maybe	'Efficiency may depend on monitoring and enforcement ability of monitors'

As not all rents signal inefficiency, Khan (2004, 2006) is emphatic that neoliberalizing policies which aim to cut rent-seeking and lever the state out of development may, in fact, be based on misleading historical evidence, faulty theory and false causation. He notes that the fastest-growing developing nations do *not* do better than those stagnating on most indices of anti-corruption and 'good governance'. Rather, rents – even primitive accumulation (Khan 2006) – can occupy a very important role in the transition from a pre-capitalist to a successful capitalist society. Crucially, too, he points out that rent-seeking behaviour does not disappear in developed countries, although the most blatant corruption may; instead, it is formalized through institutions such as lobbying, 'revolving doors' between industry and government or regulators, and party-political donations. Opportunities for rent-seeking are virtually inevitably present in all 'real world' institutional frameworks.

2.2.3 *A methodological note*

There are some serious methodological issues with the exploration of rents, such as the necessary opacity of the less palatable and elitist 'second face' of power (Bachrach & Baratz 1970; Lukes 2005; Schattschneider 1960); the difficulty, if not impossibility of quantifying their total size and effects; and the pre-emptive and misleading implications of working backwards from seeming effects to rent-seeking groups or in attributing neat causational links between organizations and institutional change.

The carefully empirical secondary literature has travelled some way in exposing the first. Regarding the second issue, this paper does not attempt to provide a quantitative analysis of rents in the energy sector. Instead, Khan (2000*b*) provides some sketches of the qualitative political-economic insights that can come from a rent-based analysis. The third 'behaviouralist' or 'consequentialist' criticism, unfortunately, is somewhat more difficult to address. The problem of attributing causality and direct effects is inherent to this theory and must be borne in mind; my conclusions will inevitably, therefore, be somewhat provisional.

The following chapter uses the broad analytical approach outlined here to sketch some of the major institutions and organizations which impact on the Indian electricity sector, working from Williamson's (2000) Level 1 (macro and long-term) downwards. It then applies the narrower lens of Khan's framework of rents and rent-seeking within this institutional matrix. Chapter 4 assesses the broader implications of these results for the political economy of India, before drawing some provisional conclusions on political 'room to manoeuvre' from a comparative assessment of British energy policy.

3

Mapping the Indian Energy Sector

This chapter aims to give a comprehensive overview of the institutional matrix providing the 'rules of the game' for the Indian electricity sector, and addresses the ways in which rent-seeking takes place within this architecture. On the broadest 'macro' level is the 'new energy paradigm' reshaping contemporary world politics and national concerns. This ensures the state is guaranteed a crucial role in the sector despite the logic and rhetoric of privatization. The chapter goes on to delineate the institutional matrix specific to the *Indian* power sector, and the organizations challenging for dominance within this framework. Finally, it analyzes the sector in terms of rents and rent-seeking, drawing particular attention to the core institution of the federal system. It is shown that rent-seeking is endemic, but that these rents are of quite different types.

3.1 Global electricity culture: the 'new energy paradigm'

A sea-change is taking place in the national energy climate even more significant than the 1973 oil crisis; this has coloured India's contemporary energy policy and discourse. It was fashionable in the 1980s and 1990s, when several OECD countries liberalized their energy sectors, to treat energy as just another commodity to be left to market forces. The security-of-supply concerns which had dominated since World

War II seemed to have been 'solved'; given that the reserves of raw materials seemed infinite, energy policy could be virtually depoliticized (Helm 2007*a*, 2007*b*). Faced with the crippling financial weakness of most state electricity boards (SEBs), paranoid about fiscal deficits and under pressure from the World Bank, the Indian central government took limited steps to liberalize the sector in 1991, but did not fully open it to competition until the passage of the Electricity Act (2003).

However, by 2003 the global energy scenario had undergone a paradigm shift. Many hydrocarbon-supplying countries were unstable and energy prices increasingly volatile; assets were ageing; the twin threats of climate change and the finitude of resources enforced reconsiderations of energy portfolios (often encouraging a turn towards coal, as supplies are more secure); states were increasingly being made to account internationally for their energy policies. This has led to the (re)development of highly politicized, activist and statist power policies in many countries (Chick 2007; Helm 2004; Makansi 2007); 'energy policy has to a considerable extent become foreign policy' (Helm 2007*a*: 1).

Security-of-supply issues are particularly pronounced for India, even forming the topic of President Abdul Kalam's 2005 Independence Day speech (http://www.hindu.com/thehindu/nic/presidentiday.htm). In 1991 it imported only 17.8% of its commercial energy; now that figure is more than 30% and rising (Carl et al. 2008: 5). Unlike the earlier principled non-alignment, its foreign policy is now characterized largely by pragmatism and expediency (C.R. Mohan 2005). This is especially true when it comes to energy and natural resources, as demonstrated by its negotiations with Pakistan, Iran and Turkmenistan over pipelines and the penetration of various African countries by Indian energy companies. Chinese overtures to its neighbours make India particularly nervous – not least because China's own foreign policy is characterized by resource concerns (Müller-Kraener 2008) and Indian companies repeatedly lose overseas bids to Chinese firms (Madan 2006: 43). Its power supply does not match up to its claims to be China's equal.

There is an 'ever-increasing gap between India's energy vision and its energy reality' (Carl et al. 2008).

This is mirrored by the dismally unreliable and commercial unviable state of the contemporary service, so that for most Indian consumers (both commercial and domestic) reliability and not cost is the central concern.[5] Climate change is also gradually intruding into everyday consciousness through the media (Billett 2009), as in the coverage of the BJP's surprise election defeats in the drought-stricken Malwa region of Madhya Pradesh. This, too, is often seen through a nationalist paradigm, which does not deny the phenomenon's anthropogenic origins but places responsibility for emissions cuts solely on developed nations (Billett 2009). The lack of rural electrification is explicitly presented as a reason why India should not be asked to cut its own emissions (CSE 2001). This milieu – electricity unreliability and international negotiations – means that, far from exiting the sector, the Indian state inevitably has to preserve an important role in negotiations, central direction and ensuring raw material supply. The prism through which energy policy is seen is therefore largely the *national security-of-supply paradigm*.

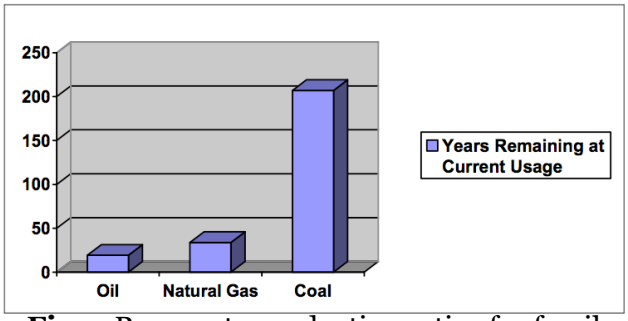


Fig 2. Reserve to production ratios for fossil fuels in India (Carl et al. 2008: 23)

Importantly, this means that environmentalism is *not* usually the primary prism through which energy is seen in India, as witnessed in reformed state electricity boards' (SEBs) mission statements (Gujarat SEB n.d.). India is still heavily reliant on coal, partly because this is the only hydrocarbon of which it has significant indigenous supplies (Fig 2). However, environmentally friendly and energy security goals for India are partially congruent. Although 'green' considerations did not play a

[5] Business consumers see lack of reliable electricity as *the* biggest hurdle they confront in India, more so than corruption or tax (Ahmed & Ghani 2007: 11).

major part in the liberalizing reforms, the reforms' net environmental effect 'has probably been positive', reducing losses in the power system and thereby lowering emissions per unit of energy delivered, and encouraging the construction of more modern, efficient plants (Tongia 2003: 67). Under security-of-supply pressures, India is also expanding its energy portfolio to include a broader range of resources, including nuclear, wind and solar (Lamb 2006), assisted by new gas finds.

3.2 The institutional matrix

A significant number of formal and informal institutions interact in providing the structural architecture of the Indian electricity sector. This section will briefly précis some of the most important and highlights the key organizations operating to enforce and contest these institutions. The final section analyzes the sector in terms of the rents and rent-seeking by a number of these organizations within this institutional architecture.

3.2.1 *Formal institutions*

Private property rights and the enforcement of contracts

The level of legal property rights is central to the institutional framework of any polity (Williamson 2000). India is far from an arbitrary despotism. However, the rule of law has not infrequently appeared contingent in recent years. The Supreme Court has displayed consistently pro-business leanings for much of the last decade, and State administrations have ridden roughshod over the property rights of villagers who impede the construction of Special Economic Zones and factories, most famously in Nandigram, West Bengal (Bhushan 2009; French 2008). Businessmen are represented ever more heavily in the *Lok Sabha* and their lobbies in Delhi better funded and connected than ever (Court 2008).

On the other hand, state officials have displayed lasting and open hostility towards independent power producers (IPPs) (Lamb 2006: 1). They have frequently attempted to wrestle further concessions from IPPs by forcing contract renegotiations or breaching contracts. Most notorious was the case of the Enron-sponsored Dabhol project, which the Shiv Sena government disastrously renegotiated before the Maharashtra SEB finally reneged altogether in 2000, just a year after the plant's opening. In frustration, the US Consul-General in Chennai lectured:

> The sanctity of contracts is absolutely critical for attracting investment in infrastructure…The perception of unacceptable risk goes up among [international] lenders each time a contract is abrogated or renegotiated – raising the cost of funds and thereby hindering the flow of investment. (quoted in Ramakrishnan 2001)

This is not the sole reason why India has struggled so much to attract IPP participation, especially international investment, but it certainly has contributed to the relative failure of the country's energy sector liberalization.

***Key organizations**: the Supreme and high courts; SEBs; business lobbies; transnational corporations; IPPs; civil society protest groups; the World Bank.*

India's constitutional structure

This is absolutely critical to the contemporary appearance of the electricity sector. Firstly, party-political competition in India has seen politicians resorting to offering subsidies to voters since at least 1967, with often dramatic effects: in 1998, the free electricity and water promised to farmers in Punjab the previous year destroyed the state's already fragile finances (R. Mohan 2009). These subsidies were deliberately ineffective in targeting the poor, excluding a huge proportion of households because of lack of a grid connection or of legal tenure (Komives et al. 2005), and instead deliberately went to richer domestic and especially agricultural consumers.

Subsequently, subsidy removal has often proved electorally too unpalatable for politicians to countenance.

Secondly, India's federalism has played a *decisive* role in shaping the power dynamics and rent-seeking opportunities of the electricity sector. Under the federalist constitution, electricity is a 'concurrent' subject, falling under the purview of both the central and State governments. The 1948 Electricity (Supply) Act mandated the creation of a State Electricity Board (SEB) in each state, a vertically integrated monopoly, with power over taxation of electricity and particular responsibility for distribution. Although virtually all SEBs were almost bankrupt by the 1990s, their performance – and their ability to extract financial support from the centre – was not *uniformly* weak; these regional variations have been exaggerated by the effect of liberalizing reforms since 1991.

Indian federalism is characterized more by inter-jurisdictional competition and friction than cooperation (Sáez 2002). The rents described in §3.3 therefore vary by State; some benefit much more from the 'positive' rents such as Schumpeterian rents and growth-encouraging primitive accumulation, whilst others are crippled by inter-community competition over political transfers.

On one hand, the national government still plays an important role in negotiating favourable terms in the international arena, because most often climate change is framed as a causally and effectively 'global' issue. Only the central government can put effective pressure on other states for concessions and 'climate aid' through the emissions trading regime. The Indian government can also reach beyond its own territorial limits by claiming climate change is a 'global problem', to increase the pressure for technology transfer concessions. It also has a role to play in disaster relief as India's climate becomes harsher (*Down to Earth* 2009). However, these central initiatives do not benefit all States equally.

Energy policy seems increasingly to be an area where certain more dynamic States can bypass central government agencies in order to deal with transnational

investors directly and benefit separately. It is notable, for example, that the first IPP projects were concentrated in particular States: five in Gujarat, Andhra Pradesh and Tamil Nadu, three in Karnataka, and one each in Himachal Pradesh, Kerala and Maharashtra (the Dabhol fiasco) (Lamb 2006: 32). Gujarat, Tamil Nadu, Karnataka, Maharashtra and Himachal are all among the most dynamic Indian states (Kohli 2009: 177-185).[6] Again, the States with particularly large numbers of CDM-registered projects include Gujarat, Maharashtra, Tamil Nadu and Karnataka (http://cdmindia.nic.in/cdmindia/projectList.jsp). Those who lead the field in installed wind capacity are, once again, Tamil Nadu, Maharashtra, Gujarat and Karnataka (http://www.windpowerindia.com/statstate.html). The shift of the centre of political gravity downwards to the State level has radically redefined the incentives on offer and the levers of control over patronage. These states are the beneficiaries of 'provincial Darwinism' (Jenkins 1998), rewarded for their good management, courting of big business and relatively tighter control over the dispensation and cessation of subsidies.

***Key organizations**: political parties; central government; SEBs; public utilities; state bureaucracies in general.*

3.2.2 *Informal institutions*

Norms of behaviour: bureaucrats

Even after liberalization, the Indian investment environment was widely regarded as more hostile than that in East Asian countries. Exit and entry procedures remained lengthier and more costly and tariffs were still relatively high. Fears of regulatory capture, New Delhi's capriciousness and preferential treatment for domestic firms (such as Reliance's backdoor entry into the telecoms market) persisted (Ahmad &

[6] Andhra was a particular pioneer in the energy field. Whilst it has not been as dynamic as Gujarat or Maharashtra, Hyderabad has decisively placed it on the contemporary business map.

Ghani 2007; Lamb 2006). The bureaucracy also remained 'difficult': entrepreneurs complained of local electricity board bureaucrats demanding extortionate payments in order to guarantee consistent supply (Lamb 2006: 4). Many have therefore resorted to setting up their own expensive captive generators; in fact, such captive generating capacity is growing faster than the commercial supply even in supposedly business-friendly states such as Gujarat (Fig. 3 below). In India, in striking contrast to China, the share of infrastructure contributions to fixed capital formation has declined sharply for at least fifteen years, which may place India's growth in jeopardy at a later date (Lamb 2006: 3; Nagaraj 2008).[7] In public-sector utilities, too, the relatively privileged formal workers are very difficult to dislodge from their positions, despite the gross inefficiencies this often entails (Parry 1999); 'Coal India Limited (CIL), which controls 85% of India's coal mining market, employs 50 times the manpower of private sector leader Peabody Coal while producing only one-third more coal' (Carl et al. 2008: 7). This gives CIL a productivity of only 20% of world averages (Nilekani 2009: 440).

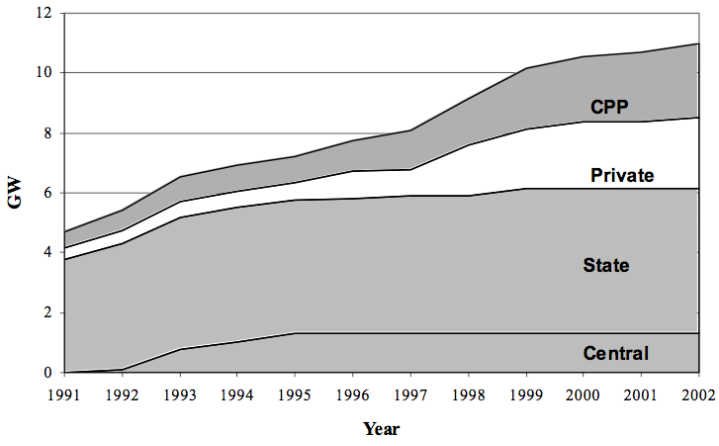


Fig. 3. Installed capacity in Gujarat, by ownership, including captive power plants (CPP) (Shukla et al. 2004: 14; sources: Gujarat Electricity Board and Commissioner of Electricity, Gandhinagar, Gujarat, 2002)

The independent regulators set up to insulate the state electricity industries from political interference also appear flawed. In a study of Andhra Pradesh, Delhi and Karnataka, all three regulators were found to be 'merely passive' (Sarma 2007). A World Bank-led exemption from regulatory oversight for private players was

[7] It is the domestic housing construction boom which is largely fuelling India's lively fixed capital formation (Nagaraj 2008).

forced through in Karnataka, tying its regulator's hands; the situation in Delhi was similar; whilst in Andhra a loophole meant that Reliance avoided regulatory price-fixing when selling newly discovered offshore gas, thereby able to supply it at extremely high prices. The public utilities, meanwhile, continued only limited compliance, bolstering their apathy with direct access to the ruling elite. Ominously, too, retiring bureaucrats or technocrats had been appointed in all three States to chair the regulatory authorities and staff tended to be drawn predominantly from public-sector utilities; increasingly bureaucrats claim these offices as a matter of right, undermining regulatory autonomy (Singh 2005).

***Key organizations**: State regulatory commissions (and the Central Electricity Regulatory Commission, CERC); SEBs; transnational corporations; local electricity boards; public-sector utilities; World Bank*

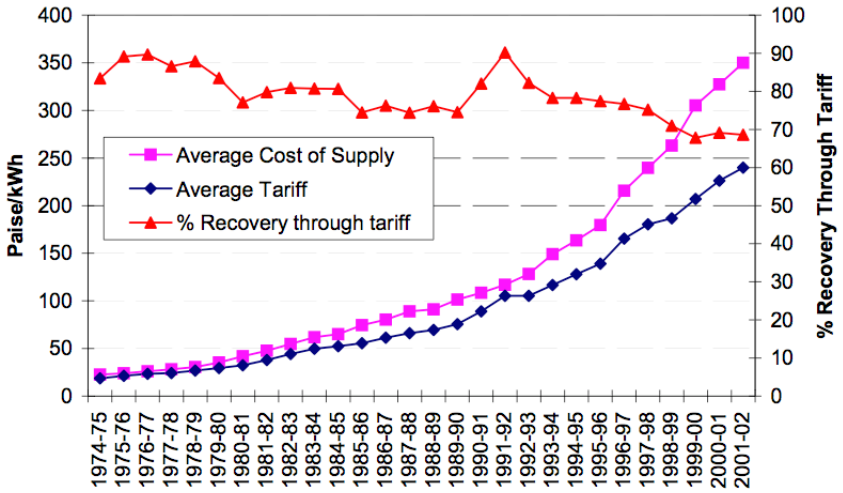


Fig 4. Cost of supply and average tariff, 1974-2002 (Tongia 2003: 24; data from Indian Planning Commission; data for 2001-2002 from Annual Plan)

Norms of behaviour: consumers

Losses in transmission and distribution have been estimated to be as high as 38% of electricity generated, costing US$4.5bn annually, or an enormous 1.5% of India's entire GDP (Bhatia & Gulati 2004). They vary hugely, from 43% in Jammu and Kashmir to a mere 16% in Maharashtra, and have been successfully reduced in Andhra Pradesh by anti-theft measures (Sáez 2002: 182), suggesting that a significant portion of these losses is due to electricity theft (Fig. 5 below). As tariffs

have risen in India over the last fifteen years, the rate of recovery has decreased (Fig 4 above). Attempts to ensure that agricultural electricity supply is metered have largely failed, sometimes due to lack of funds for meters but often through the deliberate noncompliance of farmers, who have destroyed the meters. Such noncooperation is perhaps unsurprising given the notorious unreliability of the service provision.

***Key organizations**: Farmers' groups*

Fig. 5. A typical distribution pylon in an Indian city. Note the serious rust problem – and of course the huge number of illicit wires tapping the supply.

(e) *Expectations of the state*

State ownership remains crucial; as of February 1, 2007, 55% of installed capacity remained in the hands of the States and 33% the centre, compared to only 12% for private companies (Panagariya 2008: 383). Contrary to the stance of orthodox economists Sumir Lal (2006) and Arvind Panagariya (2008), this is not necessarily a negative. Private investors generally avoid the huge investments required for adding capacity. In the Indian context, privatization would also almost inevitably mean neglecting rural electrification and a huge chunk of poorer customers, given that rural grid extensions are uneconomical and many are too poor to pay. In fact, even in the UK (the world's most liberalized energy market), the state still demands cross-subsidization in order to fund electricity for the poorest consumers. In Indian cities, too, citizens' expectations of their governments have risen dramatically since the

days of the Hobbesian fiscal-military state. For the state to abdicate entirely from electricity provision would be grossly unpalatable in the UK and India alike.[8]

***Key organizations**: Consumer and farmers' groups; NGOs.*

3.3 Rents and rent-seeking

Having outlined the institutional matrix that organizations either attempt to exploit or alter to their benefit, the following section describes some particular manifestations of political and information rents. Figure 6 presents a stylized and incomplete map of some of the major groups of organizations involved in seeking and dispensing political transfer rents (through subsidies, theft and siphoning). Figure 7 does the same for other forms of rents.

3.3.1 *Politically organized transfer rents*

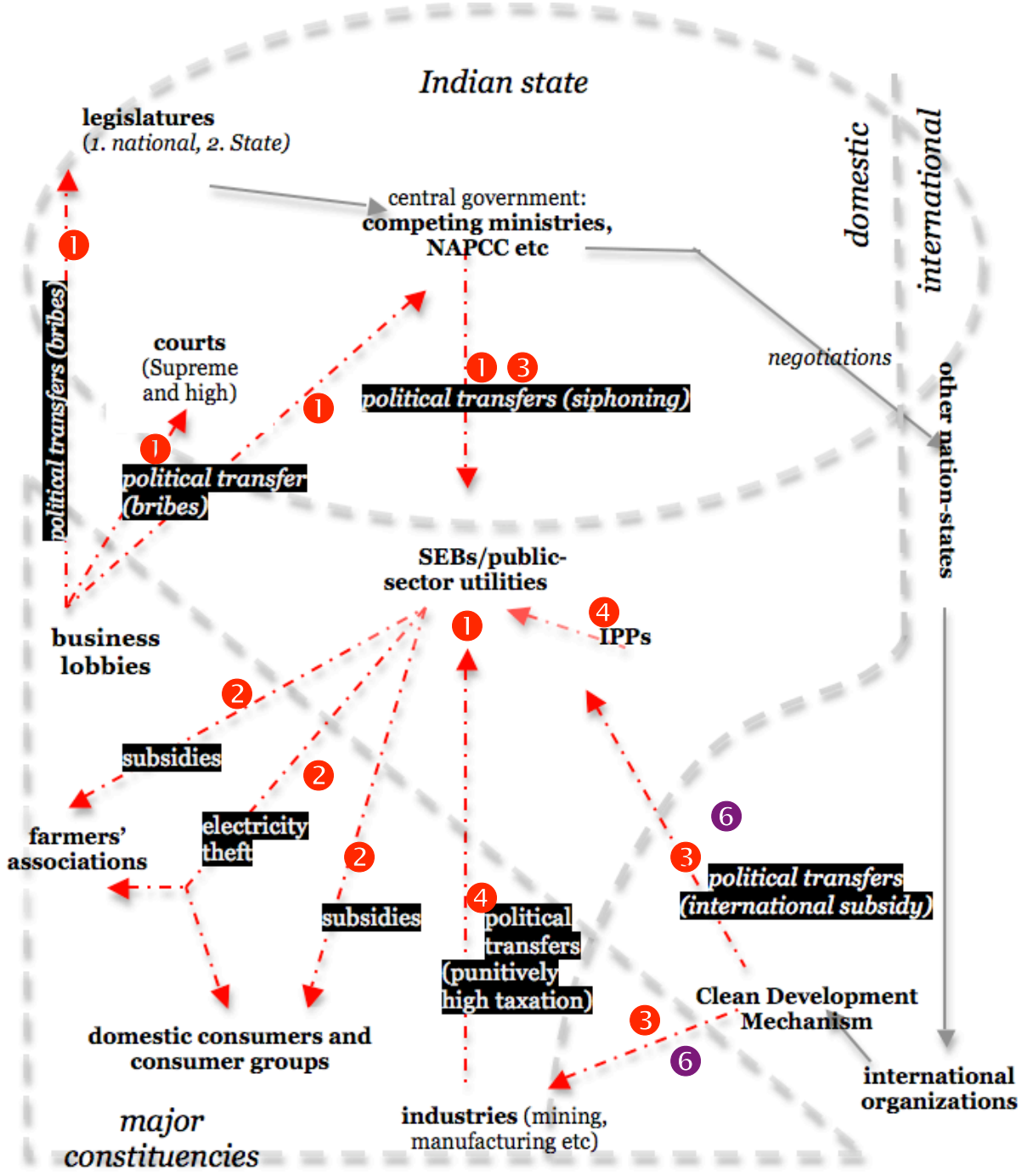
As the diagram below (Figure 6) demonstrates, this type of rent is endemic in the power sector. On one hand it includes ❶, destructive siphoning by corrupt officials, and facilitatory bribes which may or may not have destructive or systemically lubricatory effects. On the other, it can comprise ❷: ensuring political stability by buying off troublesome groups (especially big farmers and *goonda* local politicians) through 'deliberate leakages' and electoral sops (Nelson 1989) or ensuring a certain level of income to avoid unrest among the 'masses' (Khan 2006).

This category also includes ❸, the huge financial and political support given to all links on the electricity chain, from support for generating companies and even sales quangos, to regionally varying subsidies and feed-in tariffs on renewable energy, which, as elsewhere in the world, tread a fine line between encouraging complacency and fostering renewables' widespread use. Political transfers also

[8] Even if some 'democratic' southern African states are doing just that (McDonald 2009).

include ❹, punitively high taxation imposed on industry and punitive conditions on IPPs, which raise state revenues to be redistributed as ❶ and ❷ above.

Fig. 6. Some **political transfer rents** and organizations in the Indian electricity sector (non-comprehensive). (Rents are shown by red arrows and described in **black**; organizations are written in **bold**.)



3.3.2 *Information rents*

Category ❺ (see Figure 7 below) are the enormous Schumpeterian rents on offer should an entrepreneur develop new technology or other progressive innovations; such innovations – such as a breakthrough in storage of solar energy or in using thorium for nuclear power – have the potential to reap not only Indian but international rents.[9] This is undoubtedly one of the incentives attracting entrepreneurial firms to the renewable energy sector. However, to make a return from the sector does not even require the fact of innovation; speculators, gambling on Schumpeterian innovations and on the growth of the renewable sector, are increasingly attracted to the stocks of firms such as wind-turbine manufacturers Suzlon Energy.

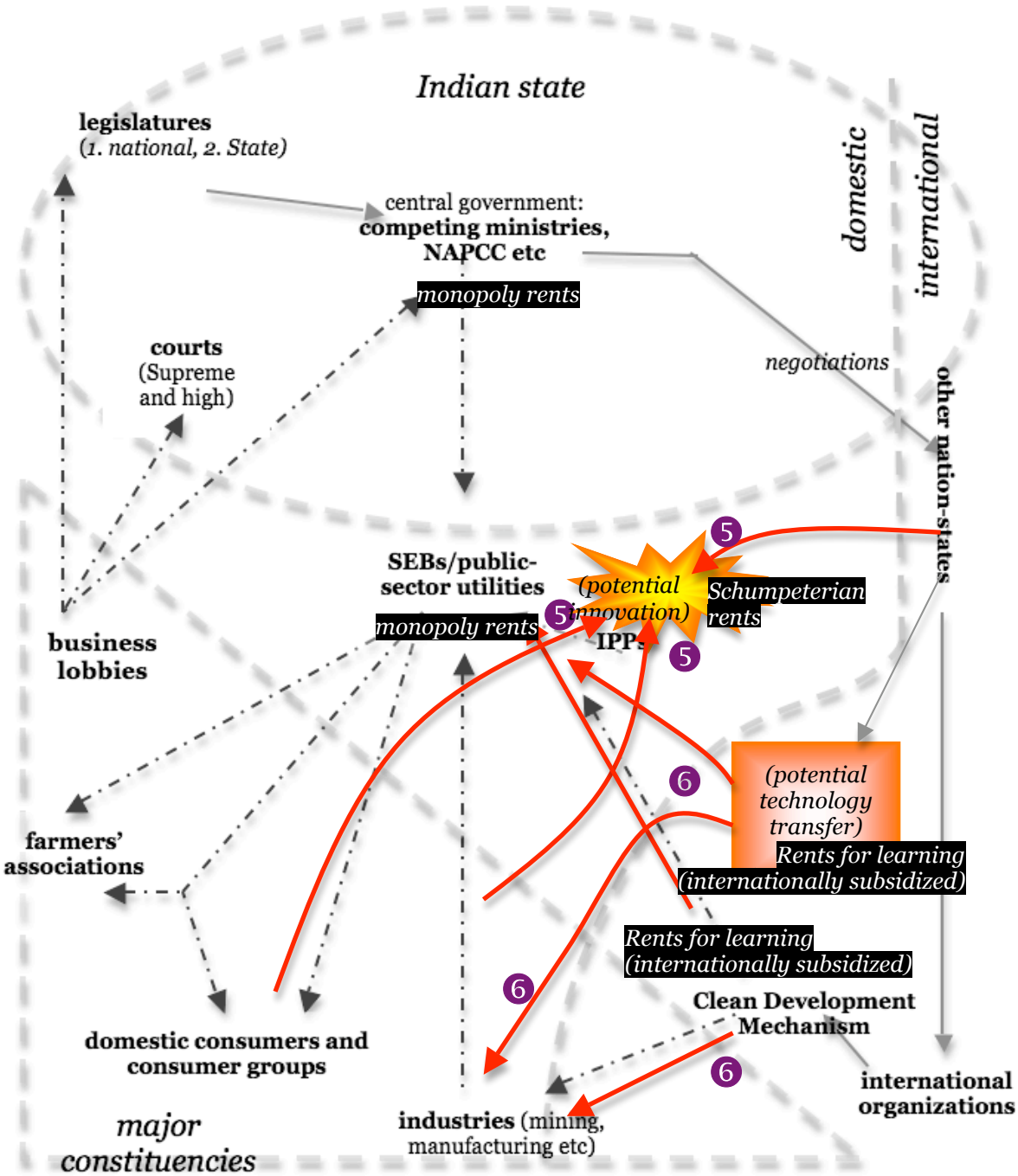
❻ is a particularly intriguing source of rents, one not readily encompassed by Khan's implicitly state-centric framework (2000*b*): subsidies from the international arena and developed countries for emissions reductions by developing countries. Just as the global economy presents opportunities for larger – if more briefly sustainable – Schumpeterian rents for renewable energy and energy efficiency innovations, the Clean Development Mechanism (CDM) presents opportunities for an array of rents for which the Indian government does not have to foot the bill, thereby *reducing the social cost* of these political transfers. Theoretically, these are learning rents to enable developing country industries to 'go green' through technology transfer from advanced-nation industries. In reality, however, the Government of India has been happy to fast-track CDM project applications (which can now be done very quickly online without too many questions) and to flaunt the principle of 'additionality' (the carbon-reducing intervention is a beyond-business-

[9] This diagram also displays the natural monopoly rents extracted by those who control the transmission and distribution grids, usually SEBs but occasionally private participants or central utilities. Given that the grids require constant repair due to overloads through theft, these rents are negligible.

as-usual project), using the CDM as a slush fund for its decentralized rural electrification projects. Companies that have benefited from its approach have also mainly been well-financed, well-connected and heavy-emitting operations themselves, such as the energy subsidiaries of the Tata Group (Lohmann 2008*b*). Moreover, the CDM market on carbon offsets has a structural bias towards fossil fuels (the easily-installed, heavily-credited 'low-hanging fruit' of minor technical interventions, which unfortunately show few signs of being entirely gathered in the near future) (Lohmann 2008*a*). Such features almost entirely undermine the 'learning' character of these rents.

As well as such transfers organized through the CDM political mechanism, related rents here include potential rents for learning funded by international technology transfer deals (should they eventually be pushed through). India and especially China have proved themselves particularly innovative in utilizing these novel revenue and rent streams. Indian conglomerates like Tata, Birla, Reliance, Jindal and ITC have become major carbon credit sellers (Lohmann 2009). As the carbon trading and carbon offset markets swell dramatically – perhaps the replacement for the scarred quadrillion-dollar financial derivatives market, and prospectively the world's biggest commodity market (Lohmann 2009) – these financial rewards look set to increase.

Fig. 7. Some **other types of rents** and organizations in the Indian electricity sector (non-comprehensive). (Rents are shown by red arrows and described in **black**; organizations are written in **bold**.)



Having provided a comprehensive overview of the institutions, organizations and rent formations that characterize the Indian energy sector, Chapter 4 will proceed to analyze this architecture in more ambitious terms. It will first draw out the implications of the distribution of rent-seeking 'winners' and 'losers' to make a contribution to the overall theory of the political economy of contemporary India. It then explores the issue of federalism, and a new type of State emerging from the ashes of regional inequality. Finally, it applies the same framework to an international case study, the UK, to compare and contrast with the Indian results presented here.

4

IMPLICATIONS

This chapter draws out the implications of the comprehensive evidential map of institutions and rents presented in Chapter 3. In the first section, it sets out some conclusions about the political economy of India more broadly, given the modern importance of electricity. The power sector demonstrates that even ostensibly pro-business states are not exclusively pro-business or able easily to retract political transfer subsidies to lower groups. It notes the wide State variations in the character and results of rent-seeking, ranging from semi-anarchical competition to a dynamic reciprocity between 'business' and 'the state'. Drawing on empirical data, it suggests that rent structures affect performance both negatively and positively, and that the half-liberalization of the energy sector seems only to be commensurable with one ideal type of this structure.

In the second section, it sketches out a comparison with the institutional and rent structure of the British electricity sector. This sector delivers far more consistent service than that of any Indian State and its structures of rents and rent-seeking are much more stable. My theoretical framework suggests, however, that this means institutional change is much less likely in the UK, and the British government has correspondingly less room to manoeuvre on the related but distinct issues of climate change and energy security.

4.1 Electricity and the political economy of India

4.1.1 *'Electric capitalism' or 'lumbering elephant'?*

Does Chapter 3's assessment of energy provision suggest that contemporary India is dominated by a neoliberal 'electric capitalist' bloc (McDonald 2009), or is it still a 'lumbering elephant' (Manning 2000: 119)? Who are the victors – at this instant in time, at least – in the vicious rent-seeking contests?

Since liberalization began in earnest in 1991, scholars have questioned whether the old orthodoxy on the balance of power between landed, manufacturing and bureaucratic elites (Bardhan 1998; Kaviraj 1988; Rudolph & Rudolph 1987) has been undermined. On one interpretation, the years since 1991 marked the final success of the urban middle classes in securing their hegemony (Palshikar 2004); on another, the analogy with the indivisible 'sovereignty' of a *mon*arch had finally been broken, with the pluralized state abdicating from its social and other responsibilities, 'hollowed out' by private actors (Chandhoke 2003). A third claimed that elite central officials were as interventionist and self-seeking as previously, albeit often using subtler techniques of influence (Jenkins 1999; see also Ascher 1984), but that they now act almost solely in the interests of 'business' rather than pursuing broader developmental interests on behalf of the majority (French 2008; Kohli 2006). The relationships between 'big business' and 'the state', both formal and especially informal, are supposedly closer than ever (Court 2008), as the power of agricultural elites has waned. All these interpretations have as their thread of commonality the notion that the post-1991 Indian polity is more business-friendly and less supportive of inclusive development than ever before.

This paper is not so hubristic as to categorically dismiss this claim. However, analysis of the political transfer rents 'captured' within the electricity sector clearly problematizes this interpretation. Electric power is central to manufacturing, industry, financial services and even India's beloved IT sector. The majority of tax

revenue in many States comes from big business, particularly manufacturers, as in the example of Tamil Nadu (Jairaj & Harriss-White 2006). Yet we have seen that the multilevel Indian state has continued to snub or fail these prestigious constituencies, forcing them increasingly to resort to captive generators even in the most 'corporate-friendly' states. Just three days ago (June 2, 2009), for example, the Punjab SEB took the decision to ban industrial units from carrying out mechanical work requiring electricity during peak load hours in favour of ensuring already strained residential supply in the heat (*Times of India* 2009c). Nor is this true only of agriculture-dominated Punjab; a nationwide study released at the end of May discovered that 'India Inc' had lost over Rs 43,000 crore (US$9.1bn) in the last financial year due to scheduled and unscheduled power cuts, a doubling of the figure in 2003 (Rs 22,000) (*Business Standard* 2009). Conversely, the political transfer nexus of punitive corporate taxation, bureaucratic siphoning and agricultural subsidies and nonpayments (see Figure 7 in Chapter 3) has been remarkably resilient. In general, then, the electricity sector is still far from successful despite its partial liberalization; corporate capital overall seems largely powerless to halt its demise or to force the removal of uneconomic subsidies, and is starting to abandon it altogether.

When combined with statistics on the decreasing recovery of energy tariffs, the rise of captive generation is indicative of the state of the Indian polity as a whole. Energy theft and the increasing abandonment of the state service by industry can be seen as analogous to a pervasive culture of tax evasion as an indication that the state has seriously lost legitimacy. The state is trapped in a contradiction, as the only body attempting to enforce electricity payments but simultaneously 'complicit in the creation of formal institutions' for avoidance of payments. It is therefore compromised on multiple fronts (Jairaj & Harriss-White 2006: 5253). Not only does it lack legitimacy in the eyes of both commercial and domestic consumers, but politicians and state employees themselves also sabotage it through formal and

informal social regulation that ignores or legitimates nonpayment. There is a ring of plausibility to the claim that the failed liberalization of the sector was a desperate – and ultimately futile – attempt to circumvent the cash-strapped, politicized SEBs (Dubash & Singh 2005*b*). Almost throughout the electricity sector and in every State, the power of the multilevel Indian state seems weak, unable to staunch the flow of political transfers to influential, competing intermediate groups.

4.1.2 *'A divided Leviathan'*

However, there is an additional complexity, neglected by Khan (2000*b*) in his hasty dismissal of political institutional variables (pp. 107-112). This is the importance of India's multilevel, federal structure. The Indian 'state' is not unitary as his treatment implies. Instead, for the last quarter-century and especially since 1991, the States have requisitioned increasing power for themselves under the (paradoxically centralist) federal Constitution. This system is not neatly cooperative and regulated by intergovernmental institutions, as Granville Austin (1966) earlier claimed. Instead, tiers of government contend for resources and jurisdictions overlap, causing friction. That was apparent in the energy sector during the late 1990s when some State governments felt the central bureaucracy, in slowing down foreign investment in infrastructure with red tape, was increasingly indifferent to the States' constitutional role in generation (Sáez 2002: 179). This internal competition seriously complicates the rents available – but also creates opportunities for some States.

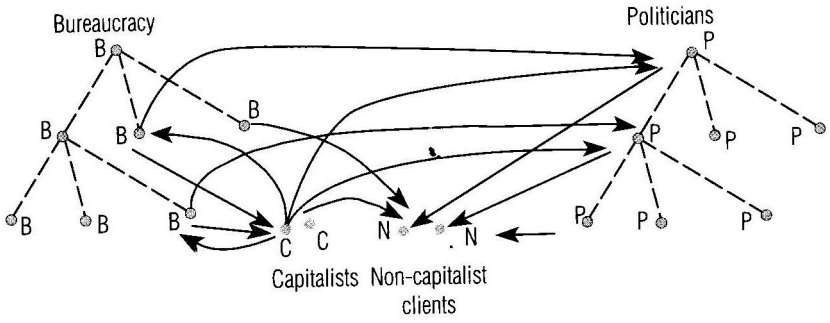


Fig. 8. Khan's (2000*b*: 94) depiction of resource flows in the Indian subcontinent since 1960.

Khan's analysis (Figure 8) may sit well with the predicaments of some States, such as Uttar Pradesh, Jharkhand, or Bihar where rent-seeking competition has degenerated into violence (Harriss 1999). However, it appears strikingly anachronistic when applied to others. We have already noted that the States with the most impressive records in installed wind generating capacity and number of CDM projects (Tamil Nadu, Gujarat, Maharashtra and Karnataka) overlap heavily with those who quickly tried to take advantage of the beginning of energy liberalization in 1991. They are also renowned for their business-friendly climates more generally, and were quick off the mark in 1991 in attracting foreign direct investment (FDI).[10] Interestingly, the administrative structure of their SEBs is not all the same – Tamil Nadu has refused to privatize its energy sector – so there must be other variables at work too.

The Khanian framework provides a possible explanation. On one hand, Gujarat, for example, faces the same political-transfer nexus as other States: assertive utility workers' unions, strong agricultural lobbies and corrupt bureaucrats; the Gujarat government does not want to provoke a political backlash from these powerful groups as occurred in Orissa (Hansen & Bower 2003). On the other hand, however, the administration is able to encourage renewable energy use by charging far lower wheeling fees for captive power plants (CPP) using renewable sources. CPPs also help to alleviate its strained supply:demand ratio by providing additional capacity (see Figure 5, Chapter 3). Maharashtra has taken this even further by taking measures to positively encourage CPP wheeling (Hansen 2008). Simultaneously, these States provide favourable climates for investments and entrepreneurs (Sinha

[10] Between them, Tamil Nadu (6%), Gujarat (7%) and Maharashtra (13%) attracted a full quarter of the total FDI proposals approved in India between August 1991 and December 1998 (Sáez 2002: 147). Gujarat's ratio of implementation to proposed investment was particularly high (60% in 1997), compared to Maharashtra (40%) and Tamil Nadu (27%) (Sinha 2005: 155) and a national average often as low as 20% (Sáez 2002: 170). Nearly half of all income from Non-Resident Indians also goes to Gujarat and Maharashtra (Sáez 2002: 147).

2005). Such incentives act in fact as a stilted form of learning rents, whilst policies that encourage investment and exports aid Schumpeterian entrepreneurs.

This is rather different to the traditional model of the strong 'developmental state' and its 'revolution from above', able to selectively 'govern the market', impose order and control subsidies to non-capitalists (Evans 1995; Johnson 1982; Trimberger 1978; Wade 2004; Woo-Cumings 1999); Aseema Sinha (2005) seems to overstate the case in bestowing this label on Gujarat. However, it *does* seem true that Gujarat, and perhaps gradually a handful of other States, are able to offer the opportunities for Khan's (2000*a*, 2004, 2006) 'productive' rents: Schumpeterian innovations, an approximation of rents for learning, and capitalistic primitive accumulation. Given the exigencies of the Indian system, however, with its contesting and mobilized intermediate groups, this capitalist primitive accumulation cannot go totally unmitigated. Through 'leakages' (Nelson 1989) – which quite deliberately go to intermediate or particularly troublesome and demanding groups (Chatterjee 2004, 2009), *not* to the quiescent poorest – the state can 'buy off' these rent-seeking groups and thereby ensure stability (Khan 2006). Such pragmatic gradualism (Ascher 1984), or 'reform by stealth' (Jenkins 1999), seems far more successful than the 'shock treatment' applied to Orissa – or indeed to Latin America.

The state in this example is not the East Asian command state, but it does exercise a degree of autonomy. Akin to the state of the heterodox Marxist Nicos Poulantzas (1978), it adjudicates between short-term rent-seeking claims and co-opts intermediate groups – in part by extracting punitively high taxation from electricity-intensive industries. This may not be sustainable (as demonstrated by the flight of industry from the state-run electricity service); but it may not need to be, should the state first be able to attract enough investors, provide the preconditions for capitalistic primitive accumulation and encourage enough stability to foster investments in infrastructure.

4.2 Comparison: the United Kingdom?

This Khanian analysis can also provide provocative insights into an additional and fascinating area of analysis. North (1990) was not simply interested in institutions *per se*, but specifically in institutional *change* and the necessary preconditions for it. Given that India's current energy policy – if one can even call it that – is widely recognized as inadequate, such questions of change are important. Given the global context of the 'new energy paradigm' and especially climate change, such questions of change are *crucial*. How does an Indian relative 'success story' like Gujarat compare to the UK, whose own electricity sector is a far more successful example of reliable service delivery?

The UK was the first country in the world to privatize its electricity sector, and did so more thoroughly than any other, unbundling components and auctioning them off despite this leaving uneconomic coal and nuclear power stranded and a 200,000 miners and utility workers unemployed.[11] In the 1990s National Power and PowerGen were threatened with disciplinary action after colluding in abusing their market power to fix prices in the supposedly competitive market. Although the regulator, Ofgem, has remained vigilant and the government ensures cross-subsidies to alleviate fuel poverty, energy companies can still exercise market power and fail to pass falling electricity prices on to customers (Price 2007). The UK itself is much more politically centralized than India. Energy companies and their huge lobbies have enjoyed close links with the British government, with a 'revolving door' between office-holding, energy firms and regulator, and close formal and informal links through lobbying, political donations through sponsorship (EDF and BP are major London 2012 Olympic sponsors, for example) and networks of kinship and

[11] The following description is drawn largely from Helm 2004 and Chick 2007. Nuclear and coal continued to be subsidized, but their importance declined – particularly dramatically when contrasted with the case of nuclear energy in France, which rejected liberalization (Chick 2007).

acquaintance (Harriss-White 2008; Monbiot 2000). To summarize, the UK energy sector can be characterized as a regulated oligopoly that often uses its market power to extract 'incomes above normal' (i.e. rents), and with close links to the political elites.

The oligopoly of energy firms has enjoyed leadership of the British electricity sector for twenty years. Coal, for example was shielded from the Climate Change Levy despite the bill's proposed intentions (Helm 2004); currently, the energy efficiency lobby is extremely influential, drowning out voices in favour of renewable energy (*ibid*: 422); and the fossil-fuel lobby seems able to pre-empt democratic debate (Harriss-White 2008). In March energy giants EDF and E.On advised the UK government to cut back renewables in favour of nuclear (Leggett 2009); utility workers' unions concurred. Energy and Climate Change Secretary Ed Miliband (2009) later publicly declared that the government's policy was pro-nuclear and pro-coal. In contrast, there is no coherent renewable energy policy, and the renewables lobby is divided and hampered by unstable state support (Harriss-White 2008). It seems, then, that the government and regulator have been partially captured by the fossil-fuel lobby, which is able to pre-empt democratic debate (Harriss-White 2008).

This penetration of the bureaucracy and politics by energy interests appears superficially rather similar to the situation in Gujarat. Yet there are crucial differences. Firstly, the rent-seeking and institutional arrangements of India's power sector are notable for their competitiveness and permeability, providing potential for institutional change. The situation in the British energy sector, on the other hand, is virtually the opposite. The lack of British dynamism in reacting to the 'new energy paradigm' and the weakness of the state faced with large energy firms are striking.[12]

[12] An argument can be made that India is a 'blank slate' in that its supply does not yet match demand and it has no historically coherent policy or enormous sunken costs that will have to abandoned when choosing its energy trajectory, unlike developed nations (R.K. Pachauri in Nilekani 2009: 430). There is an element of truth in this. However, many of the UK's energy assets are ageing and will require

Is this perhaps because these energy firms wield such disproportionate rent-seeking strength as insiders that outsiders (consumers, alternative energy suppliers) are discouraged from competing (Khan 2000*b*: 115-7)? Is it because such outsiders have collective-action problems – the free-rider problem – in mobilizing economically and politically (*ibid*: 123-5)? Is it simply that 'none of the players would find it advantageous to devote resources into restructuring the agreements' (North 1990:86)? There may be elements of truth to these propositions. Inevitably, though, it is also more complicated: as North (1990) marvelled, 'ideas, dogmas, fads' and subjective judgments wield a great and analytically problematic power. Instinctive future discounting ('Giddens's paradox' [2009]), negative associations of 'going green', and misplaced national pride all play a role.

replacement in the near future, giving it theoretically partial *carte blanche*. It was also quite willing to dismiss sunken costs when liberalizing in the late 1980s and half-abandoning coal and nuclear. The organizations bolstering the institutional status quo seem most crucial.

5

Conclusion: Room to Manoeuvre

This paper has used the electricity sector as a lens through which to view institutional and organizational dynamics within the Indian polity, and how they shape possibilities for responses to the twin threats of climate change and security-of-supply problems. Without romanticizing a clearly semi-failing sector, it found grounds for optimism regarding the innovatory and progressive dynamic found in some Indian provinces.

Chapter 2 presented a comprehensive theoretical framework that can combine systematic examination of cultural, social and political institutions with a more tightly focused and power-conscious analytic lens. Such a framework is particularly suited to comparative international analysis, hitherto something of a lacuna in the literature. This suggests directions for further research.

Chapter 3 applied this framework to the important but understudied case of the Indian electricity sector. It provided a thoroughgoing exploration of the multi-level institutional matrix which structures the sector. It then used the tighter lens of rent-seeking analysis to explore the particular power dynamics between organizations contesting to best exploit the rent opportunities provided by this matrix.

Chapter 4 concluded that, in general, studies which claim that India is now entirely corporate-led or corporate-driven have been exaggerated. However, there were significant variations on this model. Khan's interpretation had failed to account for such provincial differences in India's political economy. The chapter focused on the example of Gujarat as displaying a relatively successful strategy of combining courting of business and dispensing rents to potentially troublesome groups. It proposed that, although Gujarat could not be called a developmental state in any classical sense, it clearly represented a dynamic new model.

Secondly, and most provocatively, the paper turned the analytical gaze upon the UK and found that country's energy sector also wanting, though in a different fashion. The UK's electricity sector is characterized by an oligopoly with very close linkages to the governing elites. This seems to stifle progressive rent-seeking challenges by outsiders. Such a conclusion defies those in the West who use India and other emerging nations as scapegoats for their own inaction and complacency. In the era of the new energy paradigm, development may not be linear after all.

6

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