

Political Obstacles to Economic Reform: Comparative Evidence from the Power Sector in Twenty Indian States

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Abstract

Why do economic reforms succeed and fail in democratic contexts? We conduct comparative case studies of power sector reforms in the 20 largest Indian states. These states have responded to India's electricity generation, transmission, and distribution crises in different ways. Similar to conventional case studies, our research design has the virtue of allowing us to explore historical processes. However, the large number of cases also enables us to conduct comparative analysis and consider multiple causal factors at the same time. Both the findings and non-findings speak to the broad debate on the causes of reform failure. We find support for hypotheses emphasizing interest group (organized labor, agricultural interests) politics and electoral opportunism. However, we find little support for hypotheses from the partisan politics literature, as partisan cleavages do not seem to explain reform failure. These findings challenge theories emphasizing partisan ideology as a factor in economic reform.

Keywords: Economic reform, political economy, interest groups, India, power sector, energy policy

1 Introduction

A functioning electricity sector is essential for sustained growth. The poor quality of electricity supply is a major impediment to both industrialization (Bernard, 2010) and rural development (Khandker, Barnes, and Samad, 2013). However, many developing countries have faced great difficulty in reforming their power sectors (Victor and Heller, 2007). There are many potential barriers to successful power sector reform, ranging from weak institutional capacity to special interest politics and popular opposition to higher electricity prices as well as privatization.

In India, only some states have made meaningful progress in power sector reform. Figure 1 summarizes variation in reform progress across different Indian states in 2002 (one year prior to India's 2003 Electricity Act) compared to 2012. By 2012, only Orissa and Delhi had managed to initiate all six standard power sector reforms. Several states have unbundled without privatization and others have only provided open access to the power grid without unbundling. Four states have only setup electricity regulators consistent with national guidelines issued in 1998.

[Figure 1 about here.]

What are the fundamental causes of failure in power sector reform? Although the power sector is widely recognized as critical to economic development, the causes of failure in reforming this sector are not well-understood. Most existing studies focus on explaining a single case (Dubash and Rajan, 2001; Santhakumar, 2003; Bhattacharya and Patel, 2007: e.g.). When multiple cases are considered (Rajan, 2000; Victor and Heller, 2007), the number of cases analyzed remains too small for systematic comparisons and testing of multiple hypotheses. Existing studies of Indian power reforms have suggested several factors that can facilitate or impede reform efforts, but these competing arguments have yet to be combined into a comprehensive analysis covering more than just a few states.

Identifying the political sources of reform failure in the electricity sector has broad implications. Many other infrastructure sectors, ranging from urban water utilities to roads and ports, play an important role in supporting economic growth. Protests and complaints about liberalizing reforms in infrastructural services are frequent across the developing world and many reforms have failed to deliver concrete results because of political interference, unresolved conflicts, and weak political institutions (Hellman, 1998; Hall, Lobina,

and de la Motte, 2005; Checchi, Florio, and Carrera, 2009; Martimort and Straub, 2009; Denisova et al., 2012). Lessons from the power sector can be applied to these other sectors as well, because factors such as interest group politics, partisan cleavages, and corruption are equally important. In India, for example, Dubash and Rajan (2001: 3367) note that “[r]eforms in the power sector are part and parcel of growing interest in privatisation, and a shift of governance patterns from state control to independent, para-statal regulation in India through the 1990s.” While power sector reforms are quite different from trade liberalization, analysis of this subject matter can shed light on questions about privatization and regulation more generally. Wherever reforms require developing independent regulatory capacity for major infrastructure investments and pricing reforms, lessons from our study are applicable.

To examine power sector reforms, we conduct case studies 20 Indian states, including the special jurisdiction of Delhi. Although the central and state governments share authority over power sector reforms, these reforms are always implemented by state governments (Tongia, 2003). Intense electoral competition, clientelism, populism, and powerful sectoral interests also raise barriers to reform, making India an interesting case for understanding variation in reform success and failure. While economic reforms are in most countries a question of national policy, the highly decentralized Indian context sheds interesting light on the politics of liberalization when the deck is stacked against policy change.

The 20 jurisdictions under examination are the largest by population in India. For each of the states, we collect original data on reform outcomes and political-economic factors related to the reform process. Combining case study and comparative methods (George, 1979; Gerring, 2004; Sekhon, 2004; Seawright and Gerring, 2008), we provide a full description of the reform process in each state. After conceptualizing several political obstacles to reform, we examine each case for the presence of any obstacles and pressures to reform. Combining this process analysis with an evaluation of the general success or failure of the reform, we can test multiple hypotheses about the causes of reform failures.

We consider three conventional explanations for the success or failure in economic reforms: interest group opposition, electoral opportunism/populism, and partisan politics. The literature on economic reforms frequently emphasizes the role of vested interests as an obstacle to policy change (Schamis, 1999; Hall, Lobina, and de la Motte, 2005; Gehlbach and Malesky, 2010; Baccini and Urpelainen, 2014). In the case of Indian power sector, it has been suggested that major landowners, who benefit from free electric-

ity that reduces the cost of irrigation, and labor unions have played important roles in stopping reforms (Dubash and Rajan, 2001; Lal, 2006; Szakonyi and Urpelainen, 2014). At the same time, theories of comparative democracy would link the lack of power sector reform to electoral populism by parties competing for electoral victory in a clientelist setting (Weiner, 1967; Kitschelt, 2000; Keefer and Vlaicu, 2008). Other studies of Indian power sector reforms have noted that reforms are often initiated following elections (Tongia, 2003; Birner, Gupta, and Sharma, 2011). Finally, many studies in economic reform emphasize partisan politics in democracies, with left-wing parties opposing the reforms demanded by their right-wing counterparts (Murillo, 2000; Murillo and Martínez-Gallardo, 2007). While the left-right cleavage is often not the most salient in India (Guha, 2007; Kitschelt, 2012), Besley and Burgess (2000) do find support for differences between left-wing and right-wing parties in progress of land and tenancy reform.

We find strong support for two of the three canonical explanations for reform failure. First, opposing interest groups (farmers, labor unions) have played a key role in undermining efforts to reform the power sector. In cases of reform failure, strong opposition by influential agricultural interests and labor unions is frequently present and shapes the calculus of political leaders; these conditions rarely exist in cases of successful reform. Second, electoral opportunism/populism also plays a role, as incumbent state governments often stop making progress because of populist challenges by competing parties during election campaigns. In cases of reform failure, we frequently see strong electoral pressure to stop or reverse power sector reforms through consumption subsidies and political interference in electric utilities.

The lack of a strong link between partisan politics and the success of power sector reforms is an important finding. While successful implementation of economic reforms is often associated with right-wing parties, our analysis reveals that even communist parties can make major progress in the restructuring and liberalization of infrastructural services. In fact, some of the most successful reforms were enacted and implemented by the ruling communist party in West Bengal. In the states under analysis, there is no clear pattern of left-wing and right-wing parties systematically disagreeing on power sector reforms. This finding supports the view that Indian parties are not very ideological (Chhibber, 1995) or, in Strom's (1990) framework, "policy-seeking." Rather, even nominally leftist parties appear ready to liberalize when it is in their political interest.

The results are relevant both to political scientists and public policy scholars. For political scientists,

the comparative case analysis provides new evidence on the role of various factors in determining reform failure. Drawing on the comparative process-tracing method (Haggard and Kaufman, 2012), we offer new evidence on the relative importance of plausible explanations for the outcome of economic reforms. In the case of India's power sector reforms, interest group and electoral populism theories can explain success and failure in reforms. Both findings are consistent with theories that emphasize constituency demand and opposition to reform, while the irrelevance of partisan cleavages suggests that the role of elite ideology has not played a major role in determining the fate of India's power sector reforms. These findings do not mean that partisan ideology is irrelevant, but they do suggest that theories emphasizing partisan ideology must be adapted to explain why communist parties in India have often been enthusiastic and effective reformers.

For policy, the results are significant because they highlight what types of political opposition and institutional weakness raise barriers to successful reform. In the Indian context, the ideologies of different parties do not themselves appear to hold much relevance to understanding variation in power sector reforms. However, this does not mean that parties do not matter. Where parties are beholden to agricultural or labor interests, or the logic of electoral competition pushes them to adopt populist positions, the outlook for reform is not bright. Successful reforms require effective suppression or negotiation with interest groups, along with a strong emphasis on programmatic politics in electoral competition. In contrast, partisan conflicts have not prevented Indian state governments from achieving success.

2 Power Sector Reforms in India

Following India's independence in 1947, the government's federal structure allowed both the central and state governments to pass laws governing power provision. This turn toward public ownership of the power sector was solidified with the passage of the Electricity Supply Act of 1948, which provided for the establishment of the Central Electricity Authority (CEA) and coordinated power provision throughout India. The act also dictated the creation of State Electricity Boards (SEBs), which were responsible for the generation, transmission, and distribution of electricity within each Indian state. SEBs were housed within their respective state government's Ministry of Power and operated as a direct extension of the state government with minimal oversight from the central government. Most Indian state governments established SEBs, with the exception of a few minor states that did not and instead relied upon a government agency to manage the power sector (Bhattacharyya, 2005). The states that elected not to establish SEBs, such as Goa, Sikkim,

and Tripura, were the smallest in either population or area and barely generated any of their own electricity. Despite persistent power deficits and ever increasing financial shortfalls, this arrangement remained substantially unchanged until the 1990s.

The primary reason for widening power loss and the financial predicament of the SEBs was cross-subsidization of the politically favored agricultural sector, which came at the expense of industrial customers. This began a vicious cycle whereby industrial customers met their energy needs through “captive generation” while the political strength of the agricultural lobby prevented reform of the heavily subsidized tariff rates for agricultural customers (Dubash and Rajan, 2001). The inability to collect adequate tariffs to cover operating expenses deprived many SEBs of the financial capital necessary to expand electricity generation to meet ever-increasing demand for power as the Indian economy developed and hobbled efforts towards rural electrification (Joseph, 2010). Rampant transmission and distribution (T&D) loss exacerbated the financial plight of SEBs. On average, the magnitude of T&D loss increased dramatically since the early 1990s. It was not until the enactment of the 2003 Electricity Act that these losses narrowed.

Following India’s balance of payments crisis in 1991, the Rao government embarked on a policy of aggressive economic liberalization and the Indian power sector opened up to foreign investment under the Independent Power Producer (IPP) policy. Under this framework, many SEBs signed long-term power purchase agreements in exchange for private sector investments aimed at increasing generating capacity (Dossani, 2004). Despite the fact that the IPP policy signaled a major turn toward private investment in a sector historically dominated by the Indian government, it did not directly reform the politically dominated SEBs despite their continued financial losses. Despite the blessing of the national government, private investors remained hesitant to invest in many of the Indian states. By 1996, the failure of the IPP policy was evident, and the central government issued guidelines urging the state governments to reform their SEBs through unbundling. These guidelines paved the way for further legislation that created politically insulated State Electricity Regulatory Commissions (SERCs) and allowed for “open access” to transmission lines for private generating companies under the Electricity Act of 2003 (Purkayastha, 2003; Dossani, 2004; Tripta et al., 2005).

It was during this period that the Indian state of Orissa, now Odisha, sought funding for the completion of a hydro-power generation project and a new thermal power plant. After being rebuffed by all external

sources of private funding, the Government of Orissa was offered financing for the generation projects by the World Bank. This funding required Orissa to reform its ailing SEB via unbundling and to subsequently privatize several of the newly unbundled entities (Rajan, 2000). Orissa's experience with unbundling and privatization was the first case of SEB reform, and signaled the beginning of the power sector reform that is currently ongoing in other Indian states. Delhi was the next state to embark on a reform of its electricity sector, and by the late 1990s the capital city had embarked on a path of unbundling coupled with limited privatization. The Government of Delhi learned from the problems encountered by Orissa only a few years earlier, and accepted private sector bids based on reduction of power losses rather than lowest bid price (Bhide, Malik, and Nair, 2010). By the end of the 1990s, Orissa's reforms were considered partially successful while Delhi's experience delivered more promising results.

The second phase of reforms began with the Electricity Regulatory Commissions Act of 1998 and continued with the nationwide Electricity Act of 2003. In addition to establishing a Central Electricity Regulatory Agency at the national level, the law also required the creation of State Electricity Regulatory Commissions (SERCs) (Dossani, 2004; Tripta et al., 2005). The 2003 Act was broad in scope, and necessitated reforms in several key areas. First, the Act mandated the establishment of SERCs and the unbundling of SEBs; and responsibility for overseeing the progress of these reforms was vested in the Central Electricity Agency (CEA). Unlike their predecessors, the SERCs were primarily concerned with reforming the tariff setting mechanism, and allowed for states to move responsibility for setting tariffs to an agency outside of the politically motivated Ministries of Power in Indian states. The law also simplified the process by permitting states to establish SERCs without new legislation at the state level. The establishment of a functioning SERC is a major step in the reform process given that a functioning and politically insulated SERC is crucial for removing electrical subsidies for the agricultural sector. Second, power generation was mostly de-licensed, and independent power companies were allowed to use the power grid under an open access framework. Lastly, the 2003 Act required the metering of all electricity and strengthened provisions against power theft (Purkayastha, 2003; Tripta et al., 2005). While both of these provisions helped to cut the amount of power distributed freely, they also had the effect of limiting the ways that politicians had provided free or low cost power to favored constituencies. Delhi and Orissa's experiences drew attention to the promises and pitfalls of electricity sector reform. Since then, the remaining Indian states have embarked on electricity

sector restructuring; although some have moved quickly while others have lagged behind.

Figure 2 shows T&D losses over time for all of India, the count of reforms at the state level over time, and variation in the types of reforms enacted by 28 Indian states. While initial power sector reforms began as early as 1996, their number grew rapidly after the 1998 and 2003 national legislative acts that facilitated new policies at the state level. Most states began by constituting an SERC and making it functional, often followed by unbundling and electricity distribution reforms. Open access reforms increased rapidly in 2005 because of national legislation, while privatization has remained unpopular throughout. In the supplementary appendix, we also provide counts of reforms by state.

[Figure 2 about here.]

3 Pressure to Reform

The primary goal of this article is to evaluate the explanatory power of several canonical arguments regarding political impediments to economic reform. We start by providing baseline expectations for the pressure to reform based on technical and economic considerations and availability of external finance. Because power sector reforms are a response to performance problems in electricity generation, whether technical or financial, we must first account for the baseline propensity of reform.

3.1 Inadequate Power Generation Capacity, Financial Concerns

The pressure to reform the power sector in many developing countries has historically stemmed from a surge of demand for electricity that could not be met. The problem on the supply side was that the electricity sector suffered from investment shortages in utility maintenance, limited capacity to expand coverage to rural areas, and frequent power disruptions. Unlike developed countries that worked to improve efficiency within their existing regulatory framework, many developing countries began with changing existing regulatory structures responsible for financial and generation shortfalls (Newbery, 2004; Jamasb, 2005).

Prior to reform, similar problems existed in India, with SEBs failing to meet electricity demands and facing financial difficulties. This explosion in electricity demand was caused by a population boom coupled with state-led efforts to promote energy intensive industrialization. By the 1990s, state-owned enterprises in the electricity sector were not financially viable, and at one point were collectively losing over USD 5 billion per year (Tongia, 2003).

The Indian government's reports show that one of the main reasons for inadequate electricity supply was the lack of investment allocated to the transmission and distribution system. This resulted in technical losses, including frequent power outages and fluctuations in the availability of electricity. T&D losses in India in 1992 were on average 19.8% and had risen to 33.98% by 2002 (Planning Commission, 2008). This continued deterioration of the sector prompted action by the national government.

Another problem for India, and many other developing countries, has been the lack of a proper billing and collection mechanism. The lax collection of electricity charges often results in non-payment, which becomes a financial burden for the power sector. Part of these losses are also attributed to electricity theft, which are rare in developed countries but quite common in the developing world. Min and Golden (2014) measure electricity theft using T&D losses and show that this theft is more common just prior to elections in India's state of Uttar Pradesh, suggesting that political motives play an underlying role in the lax enforcement of bill collection.

Hypothesis 1. *States with inadequate electricity generation capacity and poor financial performance of state-owned electric utilities are more likely to implement power sector reforms successfully.*

3.2 Foreign Loans

With limited financial capacity, many governments in the developing world have turned to development organizations such as the World Bank, the Asian Development Bank, and development agencies in developed countries for loans to carry out domestic development projects. These loans are often bundled with a group of structural adjustment guidelines and reform timetables that governments are expected to meet during the reform. Conditionality aims to induce governments to change policies that are unlikely to be changed otherwise, shield national governments from opposition pressures, and signal private donors about improved government performance in hopes of stimulating further investment (Collier et al., 1997; van de Walle, 2001). While these structural adjustments are usually aggressive measures towards market-oriented reforms, they are expected to incentivize good governance and economic growth that will lead to long-term political stability.

The power sector is no exception to this pattern (Gratwick and Eberhard, 2008). The World Bank's main strategy to improve the supply of electricity is vertical dis-integration or unbundling of the distribution, transmission, and generation systems. These unbundled entities are then privatized in order to reduce the

share of government expenditure on electricity provision while making resources available for education, health, and other infrastructure (Kirk, 2007). The Asian Development Bank also provides conditional loans and require countries to reform their electricity sector. A survey on energy sector reform by the World Bank focused on six key steps for reform which include the commercialization of the utility, legislation on unbundling and privatization, an independent regulatory body, restructuring of the core state-owned utility, private investment in greenfield sites, and lastly privatization (Bacon, 1999).

While not all of these steps are appropriate for all countries, cross-national studies have shown that unbundling has produced good results in terms of better access, and increased technical and financial stability in the electricity market compared to countries that have kept the electricity market vertically integrated (Zhang, Parker, and Kirkpatrick, 2008; Erdogdu, 2011). Only countries that are above a particular threshold in terms of the size of the electricity market and level of economic development benefit from these types of reforms (Vagliasindi and Jones, 2013). The unbundling of the electricity sector provides an opportunity for private companies to compete for access to the electricity market and encourages competition between electricity suppliers for better quality.

Hypothesis 2. *States with access to foreign loans for power sector reform are more likely to implement power sector reforms successfully.*

4 Why Do Reforms Fail?

Building on a large body of literature in the political economy of market reform, we now consider the most important potential obstacles to reform. Drawing on existing studies from both India and elsewhere, we identify interest group opposition, electoral populism, and partisan cleavages as possible explanations. While these hypotheses are not original, our comparative approach is the first systematic effort to evaluate these hypotheses in one structured study.

Our focus on interest groups, partisan politics, and electoral populism is based on an effort to identify the most relevant factors and theorize about their relevance in advance. We do not develop alternative explanations here in full, but we do consider them in the empirical analysis. These include center-state conflicts, corruption, lack of administrative capacity, and learning effects.

4.1 Interest Groups

Interest groups exert considerable influence over the course of economic reform. For instance, Hellman (1998) argues that interest groups, particularly those that benefited from earlier reform attempts, became the most powerful impediment of structural reforms in the post-Soviet region. In Latin America, studies also show that party leaders' ability to placate labor unions determines the success of market reforms (Murillo, 2000). As witnessed in these cases, politicians are susceptible to interest group pressures as interests groups deploy their resources, in the form of votes, financial contributions, or information that is useful to legislators pursuit of policy agendas (Grossman and Helpman, 2001).

For power sector reform, we identify two main opposition groups. For the privatization of public utilities, such as water or electricity, reformers face fierce opposition from groups that stand to lose from such reform. In this sense, first, the employees of public sector utilities are most likely to take action due to fear of wage cuts and job losses that result from reform. In countries dominated by state-owned industries, such as India (Kohli, 2012), public sector workers are especially well-organized with a strong inclination to maintaining the status quo (Jenkins, 1999). Indeed, state expansion and protectionism contribute to creating these influential unions. Highly organized groups composed of government workers are likely to be most affected by privatization and competition; therefore, any government that initiates a reform program will face fierce opposition from powerful labor unions that seek to protect their interests.

Second, opposition to reforms is likely to be stronger in previously subsidized sectors, such the public and agricultural sectors in India. In India, agricultural interest groups have enjoyed a long history of subsidized power supplies (Lal, 2006; Birner, Gupta, and Sharma, 2011). Many theoretical works describe agricultural lobbies as well-organized groups successful in influencing the policy-making process. For example, Olson (1965) argues that agricultural interest groups are often able to overcome their collective action problem. Hirschman's (1970) "exit and voice" concept incorporates farmers. Overall, the literature indicates that organized farm interest groups are efficient at exerting political pressures and manipulating favorable policy outcomes.

Hypothesis 3. *States with organized labor and/or agricultural interest groups are less likely to implement power sector reforms successfully.*

4.2 Partisan Cleavages

Partisan politics provides a possible explanation for why some Indian states have achieved impressive reform progress while others have not. First, market reforms for public utilities could be impeded by salient partisan cleavages within the state governments. In many cases around the world, the left-right tension is particularly problematic for reform that aims for privatization (Murillo and Martínez-Gallardo, 2007). Generally, privatizing the public sector into a profit-oriented enterprise goes against left-wing political ideals. Therefore, state governments entangled in left-right conflicts could achieve slower reform progress than those dominated by a single party or an ideologically cohesive ruling coalition. The cross-national relationship between partisan alignment and economic liberalization has been documented by Frye (2010), who demonstrates that the intensity of inter-party political polarization accounted for why some post-Soviet countries witnessed rapid, decisive market and political reform while others stagnated. In the study of trade liberalization, left-right cleavages also explain the propensity to liberalize (Milner and Judkins, 2004).

In India, Besley and Burgess (2000) found that the Congress party and “soft” left party majorities significantly reduce the probability of implementing all types of land reform bills. In contrast, the “hard” left parties, namely the Communist Party, have a positive influence on tenancy reform, abolishing intermediaries, and passing land ceiling legislation. To be sure, this hypothesis has its detractors in the Indian context. Despite this basic framework, there is some disagreement about the importance of partisan positions on the left-right spectrum in Indian politics. Chhibber (1995) argues that India’s decentralized federal structure combined with variation in salient social divisions, such as Muslim-Hindu, tenant-landlord, and workers-industrialists, across different states has rendered the left-right distinction between parties almost meaningless. The issues that energize voters at the state level often have little relevance at the national level or in other Indian states. However, the conventional wisdom among political scientists’ is that these distinctions break down in face of the actual legislation pursued and the eventual negotiated policy outcomes. This is especially true given parties’ need to placate various coalition members at both the national and state level (Kitschelt, 2012; Guha, 2007). Moreover, the 2009 Indian National Election Survey indicates weak ties between vote choice and parties’ overall policy platform (Kitschelt, 2012). Given these factors of the Indian political landscape, partisan cleavage may only sporadically block reform.

Nevertheless, partisan conflict still occurs on key issues (though not necessarily on a consistent, left-

right issue dimension). Generally speaking the Communist parties are considered the most programmatic and ideologically stringent of all Indian political factions, advocating for economic redistribution and against market liberalization (Kitschelt, 2012). Conversely, the Bharatiya Janata Party (BJP) has championed market liberalization since the 1990s, although Congress has taken small steps towards narrowing this policy gap between India's two major national parties. At the same time, recent research contradicts the narrative that Indian political parties lack policy coherence. Thachil (2014) argues that the BJP's policies "consistently [reflect] a concern with representing the interests of its upper caste core constituencies." For example, by providing private services to poorer citizens, the BJP gains some ideological freedom to push for elite-favored market reform while still appealing to a broader swath of voters. In short, despite weak ideological attachment, parties still find room to compete programmatically and may, at times, stake out alternative positions on power sector reform. At the state-level, partisan conflict could impede reform relative to states dominated by a single party or an ideologically cohesive ruling coalition.

Hypothesis 4. *States with partisan cleavages at the state level are less likely to implement power sector reforms successfully.*

4.3 Electoral Populism

The final political obstacle to consider for power sector reform is electoral populism. The rational choice approach suggests that politicians seeking to win elections should not impose market-oriented reform when such reform is poorly accepted by the majority in the society. Combined with the average voter's fear that market competition will cause price increases in the utilities they consume, many have argued that introducing privatization, despite its long-term benefits, will only undermine the electoral support of office-seeking politicians. In the end, the popular skepticism against market reform culminates into frequent political turnovers and policy deadlock. As illustrated in Przeworski's (1991) *J*-curve, the economy may need to sustain interim political and economic instability before reform brings expected utilities in the long run.

This requires reform-oriented politicians to be insulated from popular support. If not, they will need a broad coalition that will not only facilitate economic reform but also secure their electoral prospect. In Mexico and Argentina, Gibson (1997) argues that the PRI and the Peronist party accomplished these two seemingly contradictory goals by establishing a broad voter base that includes constituents that support

reform and those who will vote for the parties regardless of the reform. Meanwhile, as Weyland (2002) argues, to muster widespread support for privatization, politicians need to convince voters that reform will bring desirable outcomes in the long run. In keeping with prospect theory, he finds that that market reform in Latin American tended to receive mass support amid an economic crisis because depression has yielded a widespread pessimism about future development and makes reform an inevitable move.

In countries such as India, where the pattern of democracy emphasizes clientelism and patronage (Weiner, 1967; Cole, 2009), electoral populism and opportunism are particularly potent threats to reform. Santhakumar (2008) has shown that such cost considerations can go a long way toward explaining opposition to power sector reform among the Indian public, and privatization in particular. If voters reward politicians for immediate gains and harshly punish them for short-term costs, then the promise of benefits over the long run is neither credible nor effective. Therefore, electoral incentives to avoid initially costly reforms should overwhelm most reform efforts.

Hypothesis 5. *States are less likely to implement power sector reforms successfully when leaders face electoral pressure to avoid adjustment costs.*

5 Research Design for Comparative Case Studies

Our research design is tailored to 20 cases, a number too large for a detailed qualitative analysis, yet too small for quantitative analysis. We apply the comparative method in a fashion that analyzes each case in sufficient detail to consider various hypotheses and code the key variables even when we cannot fully quantify them. Similar to most quantitative studies, we compare across cases based on the same set of variables in order to evaluate the explanatory power of several hypotheses at the same time. This research method draws on developments relating to comparative case studies, and takes full advantage of variation in both potential explanatory and dependent variables (George, 1979; Gerring, 2004; Sekhon, 2004; Seawright and Gerring, 2008).

The procedure used to develop the case studies requires that all factors that impeded reform efforts in any of the cases were examined across all cases. For instance, if labor union opposition hindered reform efforts in one state, we examined the reactions of employee unions across all of the states to ensure that this information was not omitted from any particular case. In order to ensure that the coding of these variables was consistent across all of the cases each variable was coded on three separate occasions:

- First, each state was reviewed on a on an individual basis by a member of the research team. The designated member then completed the initial case study.
- Second, all cases were cross checked by all researchers verifying results by issue.
- Lastly, the coding was verified by a second researcher on an issue-by-issue basis as well.

Any instance in which there were conflicting coding results prompted a meeting of the research team so that everyone involved could identify the source of discrepancy and reconcile it. Examples of discrepancies include the coding of partisan cleavages and differing evaluations of electoral populism.

5.1 Unit of Analysis and Data Sources

The unit of analysis is an Indian state. In total, we analyze the causes, process, and outcomes of the power sector reform in 20 states. The time period under investigation covers the years between 1991, in which the Indian legislation that encouraged independent power generation set in motion efforts to liberalize India's electricity sector, and 2012, as this is the last year the Ministry of Power of India released a comprehensive report on the progress of power sector reform in the Indian states (Planning Commission, 2012). This report forms the backbone for our data concerning outcomes.

In addition to the Ministry of Power reports, we have consulted various state level governmental documents, reports from non-governmental entities and think tanks evaluating the reform process, and news coverage of the implementation of reforms in each state. The state level governmental documents were mainly collected from the newly corporatized entities that replaced the SEBs. These detail how reforms were implemented and documented the technical and financial performance of the new corporate entities. Moreover, power sector reforms at the state level were assisted and studied by many non-governmental entities, culminating in reports for many of the states included in our analysis. Some of these reports were produced by development assistance organizations such as the World Bank or the Department for International Development (DFID) in the United Kingdom, some were produced by public policy think tanks in India, private sector consultants were hired to identify pitfalls encountered by other states, and academic researchers studying the reform process produced studies as well.

5.2 Reform Outcomes

The outcomes of interest are the success or failure of power sector reform in individual states. We define a state as achieving “completely successful” reform if the following three conditions were met in 2012:

- An SERC must have been established and must be operational.
- The existing SEB must have been unbundled and the new corporatized entities must be operational.
- The financial losses incurred by the state government must have been reduced or been transformed to profitability. Meanwhile, electricity provision must have improved, with observable decline in T& D losses, compared to levels supplied by the SEB.

States that only met one or two of these conditions are coded “partial success.” If none of them is met, a state is considered as a failure.

In a state, electricity reform invariably starts with the establishment of a functional SERC. States where either an SERC does not exist or is not operational are considered failures. Withholding budgetary funds or personnel appointments are some common ways that an SERC might exist on paper but is not fully operational. Next, the existing SEB is usually unbundled into separate entities tasked with generation, transmission, and distribution. In addition to the legal creation of the newly unbundled entities, it is essential that the assets of the SEB were transferred to the new corporate forms in order for a case to be considered a success. Therefore, if the SEB has not been unbundled, or assets have not yet been transferred, we code the case as a failure. Finally, another important component of a successful reform process is improvement in the technical and financial situation of the newly unbundled entities.

Since the progress of reforms in so many Indian States was near the borderline, the coding decision was made by multiple reviewers in addition to a designated supervisor. This ensured that the decision of “complete success” versus “partial success” was consistent. Any instances where different judgements arose required researchers to gather additional sources to provide definitive support for the final coding decision.

Our definition of a successful reform is in line with other existing measures. In a 2014 World Bank Report, Pargal and Banerjee (2014) provide a similar framework that divides the implementation of electricity reform into six dimensions: “competition,” “accountability and transparency,” “cost recovery,” “access,”

“quality and affordability,” and “renewable energy.” For the purpose of our analysis, we focus on the first four aspects to determine whether or not the power sector reform is a success or failure.

5.3 Explanatory Variables

The explanatory variables used in the comparative case studies are summarized in Table 1. We code both pressures to reform and possible causes of reform failure based on observable data. As quantitative indicators of reform pressures, we use the gap between the supply and demand for power and the percent of T&D losses out of the total electricity generated, which captures the amount of financial burden incurred by the SEBs that falls on state governments. We also include external pressures by accounting for the role of development assistance organizations, such as the World Bank or the Asian Development Bank, that initiated reforms in exchange for providing financial aid to state governments.

For causes of reform failure, we first measure the influence of the agricultural lobby or labor union on preventing the government from pursuing further reform policies, which are evidenced by organized protests or strikes against power sector reform. Second, to evaluate the role of partisan conflicts as an impediment to reform, we consider whether or not political parties or leaders took opposing positions related to power reform. Lastly, to detect electoral populism, we look for evidence that the party controlling the state legislature uses populist appeals during their election campaigns to openly reject power sector reform. This is a strategy that generally manifests itself as campaign promises for free or heavily subsidized electricity for voters. See appendix for precise coding rules.

[Table 1 about here.]

6 Findings

We begin with a brief description of the results and then discuss the associations between reform obstacles and outcomes.

6.1 Outcomes, Pressures, and Obstacles

In Table 2, we provide an overview of the outcomes, pressures to reform, and obstacles to the reform process. Beginning with reform outcomes, the table shows widespread variation. In three states (i.e. Delhi, Gujarat, and West Bengal), the power sector reforms can be considered a complete successes. The reforms

were implemented in full without reversals. Furthermore, the new policies enabled considerable improvements in the performance of the power sector. In contrast, reform efforts fell flat in six states, including Bihar, Jharkhand, Kerala, Tamil Nadu, Uttar Pradesh, and Uttarakhand. Although some reforms were implemented, they were limited and yielded disappointing substantive results. In the remaining eleven states, the reforms were a partial success.

[Table 2 about here.]

Technical and financial considerations were at the forefront in almost all of the states, and power sector reforms were a response to major difficulties and weak performance of electric utilities. External pressure in the form of reform packages and financial support by the World Bank and others, was found in about half of the cases. Importantly, this demonstrates that internal problems (rather than external pressure) were more often the primary motivation for reforms. Indian states engaged in power sector reform because they found it a necessary response to a desperate situation, not because of foreign pressure. Various obstacles were also found in the reform cases. The most common problem was labor union resistance, followed by agricultural lobby activism. Partisan conflicts were relatively uncommon and took place in only three states.

6.2 Explaining Success and Failure

Having presented the results of the comparative case studies, we provide a cross-tabulation of outcomes and issues in Table 3. To begin with, the table shows that the various pressures to reform were not related to outcomes. Regardless of the reform outcome, on average each state faced at least two pressures. This suggests that none of the pressure types is particularly associated with the outcome. Therefore, to explain the success and failure of reform, we need to investigate the role of obstacles to policy change.

[Table 3 about here.]

In contrast, states clearly vary in terms of the obstacles to power sector reform. Except labor union activism, states with a complete success did not see any other impediments. On average, states that were considered failures suffered from the most obstacles. Among the four possible obstacles, we see a clear negative association with the reform outcome in three cases, as we only found agricultural lobbies, labor union activism, and electoral opportunism in states of partial success and failure. Partisan conflict is relatively rare

and only weakly associated with success or failure – in Kerala, conflicts between the communists and the Indian National Congress appear to have undermined the implementation of power sector reforms.

6.3 Alternative Explanations

Besides the three main arguments examined, some discussion of alternative explanations for the variation in the reform outcomes across different Indian states is merited. While some evidence of these alternative explanations can be found in one or more cases, they fail to explain reform outcomes across the 20 states studied.

First, given that power sector reform is largely under the state government's discretion, politicians at the state level might decide whether or not they should initiate the reform after learning other states' reform experiences. In particular, states that pioneered in power sector reforms could offer states that had yet to begin reforms valuable lessons when planning their reform strategies. However, as shown in Figure 3, this does not seem to be the case. We observe the divergence of reform outcomes across different states. As the three successful states all began reforms by creating SERCs before 2000, the states that started later did not seem to follow in the footsteps of these successful cases but ended as partially successful or even complete failure. This alternative explanation does not add explanatory power.

[Figure 3 about here.]

Next, power sector reforms could reflect the pre-existing level of economic development. To consider this possibility, the appendix shows a graph that relates a state's (log-transformed) GDP per capita before reforms, in 1995, to the outcome of power sector reforms, as we have coded it. The figure suggests at best a weak relationship between pre-reform wealth and the outcome. In particular, the spread of pre-reform wealth is wide among states that we have classified as complete failures. Even relatively wealthy states such as Uttarakhand, Tamil Nadu, and Kerala have seen failures of power sector reform, while a state poorer than them, West Bengal, has achieved success.

Third, reform outcomes might depend on the institutional capacity of states. Specifically, some states might be in a better position to initiate reform because their administrators are honest and effective. In contrast, corrupt governments might find it more difficult to change the status-quo as vested interests would spare no effort to defend the established system. To evaluate this, we use the 2005 India Corruption Study

(ICS) from Transparency International India and Centre for Media Studies as the proxy of government quality (Centre for Media Studies, 2005). The ICS utilized survey data from more than 10 thousand households across 20 states to create a corruption index that includes individuals' perception of corruption and experiences with government services such as water supply, education, and the public distribution system. We tabulate the average rank for each reform outcome in the appendix. We find that on average successful states are ranked higher, suggesting that their government is relatively clean and effective. Therefore, "institutional capacity" seems to play a role in driving successful power sector reforms. However, states who failed in power sector reform are not necessarily more corrupt, as states with partial success are on average the most corrupt. Institutional capacity is important, but it cannot fully explain variation.

Finally, we explore how the general trend of economic liberalization affects power sector reforms in India. As documented by Kohli (2012), the government of India started opening its market to the private sector in the 1980s, and power sector reforms are part of the broader transition toward market liberalization. We collect data on the share of paid-up capital by non-government companies from the Ministry of Finance and Company Affairs across different states in 2001 – before the passage of the 2003 Electricity Act – and compare it with the eventual reform outcomes in 2012 in the appendix. The results suggest that states that successfully reformed their public power sector had seen a relatively large presence of non-governmental commercial activities before 2003. In contrast, "failure" states on average had the lowest share of non-government company capital. Therefore, we do find that power sector reforms parallel the broader trend of economic liberalization, and the factors we identify as the obstacles to power sector reforms may speak to other realms of economic reform in different Indian states.

6.4 Selected Case Studies of Power Sector Reforms

In the appendix, we select four states to illustrate in detail how these factors come into play in the reform process. Among them, Tamil Nadu and Uttar Pradesh are two states where reform has stagnated for years despite the central government's initiatives. One reason for this is that both states faced strong opposition by agricultural lobby or SEB employee unions. In Tamil Nadu, these movements were coupled with aggressive re-election strategies of two rival parties that dominate the state's politics, DMK and AIADMK. The two competing parties pursued an electoral strategy of promising free goods in exchange for electoral support, which includes "buying off" employee union opposition.

In contrast, reform has been successful in Delhi and West Bengal. On the one hand, Delhi is one of two states in addition to Orissa that successfully adopted nominal electricity privatization by including multiple competing private distribution and transmission corporations (Karmacharya, 2011). On the other hand, the power sector in West Bengal has yet to be completely privatized, but has made several profitable changes. The Communist government in West Bengal succeeded, through a series of carefully designed and consistent reforms, to implement a fully operational SERC, unbundle the power sector, and improve all aspects of power supply. The reform experiences in these four states show that state-level political pressures are indeed capable of stalling the success of the reform process. Foreign intervention through development loans and the deficiency of the power sector itself, in contrast, play a minor role in most states (especially in the later period of reforms). This combined with the absence of partisan conflicts over reform constitute the main surprises of power sector reforms in the Indian States.

7 Conclusion

Economic reforms are politically controversial. However, understanding the political factors behind reform failure has proven difficult. In any given case, many different factors are simultaneously present and complicate inference. Small- N studies can shed light on the processes behind reform failure, but their ability to educate us on relative importance of, as well as interactions among, multiple possible factors, is limited. Statistical approaches can overcome these problems, but the quantification of explanatory variables is often not possible. Moreover, statistical analysis informs little of the variation in reform processes. To overcome these problems, we conduct comparative case studies of power sector reform in twenty major Indian states during the country's period of liberalization since 1991. We find support for opposing interest groups, corruption, and electoral populism as critical obstacles to reform. At the same time, we do not find support for partisan cleavages as obstacles to power sector reform.

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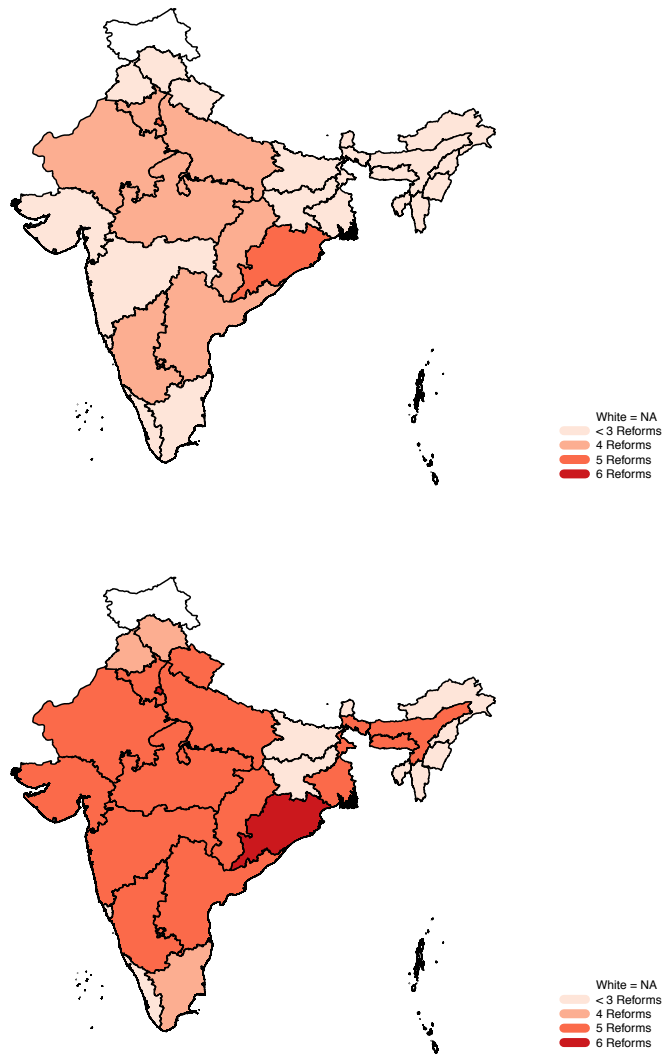


Figure 1: Distribution of power sector reforms in 2002 (upper) and 2012 (bottom) by state. The six reforms considered are the constitution of a state regulatory commission, the functioning of a state regulatory commission, unbundling, open access rules, competition in electricity distribution, and privatization of utilities. The graphs are drawn based our original data; see research design for details.

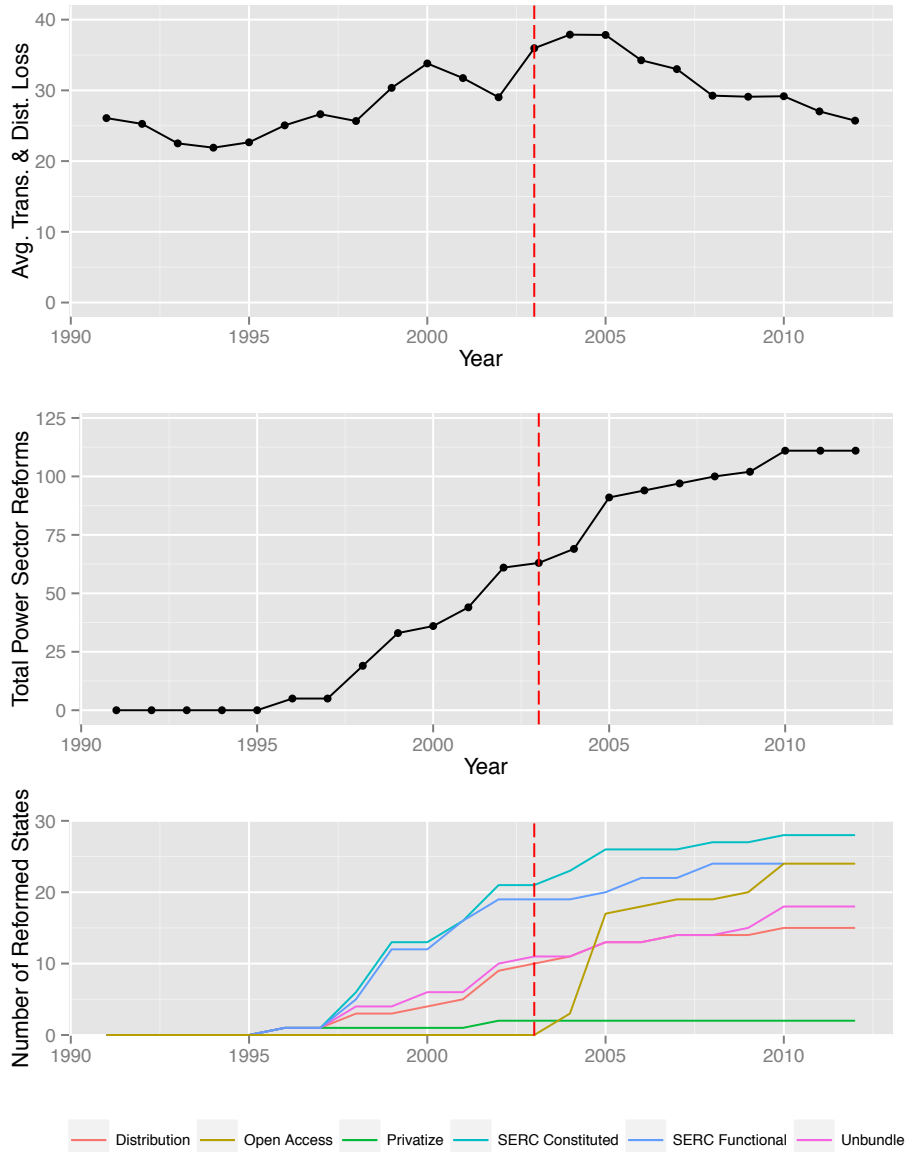


Figure 2: Average transmission and distribution losses (% , upper) total number of power sector reforms (count, middle), and different types of reforms (count by type, lower) in 28 states. The red dash line indicates the enactment of the Electricity Act, 2003. The middle panel is the aggregate count of reforms (0-6 per state) implemented by all 28 states in a given year. The six reforms considered in the lower panel are the constitution of a state regulatory commission, the functioning of a state regulatory commission, unbundling, open access rules, competition in electricity distribution, and privatization of utilities.

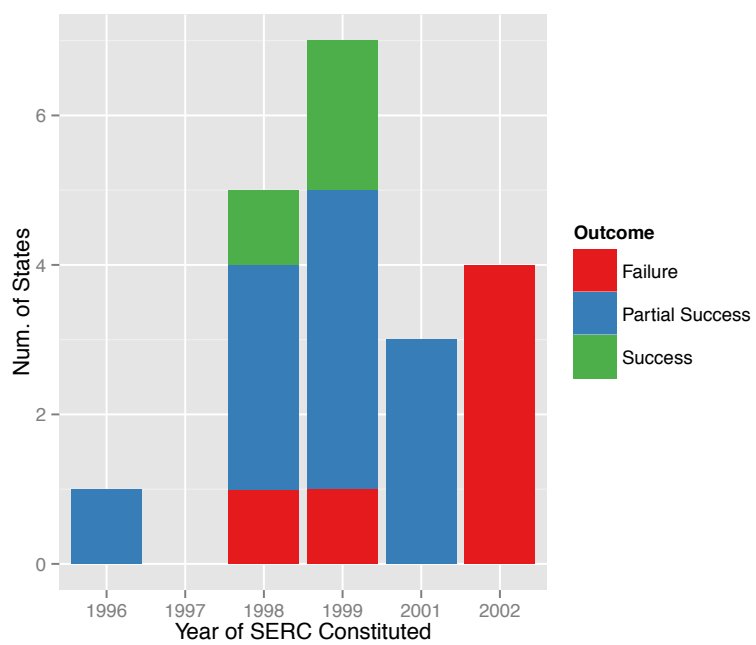


Figure 3: Reform initiation and outcomes over time.

Hypotheses	Variables
Pressure to Reform	
Inadequate Capacity	Electricity availability SEB financial losses
Foreign Loans	Funds from foreign organizations
Why Reform Failed	
Interest group	Labor union activism Lobbying by agricultural interests
Partisan cleavages	Inter-party disagreement about reform Presence of farmers' parties
Electoral populism	Parties or political elites oppose reform under popular pressure

Table 1: Summary of key explanatory variables for comparative case studies.

	Total	States
Outcome		
Complete Success	3	Delhi, Gujarat, West Bengal
Partial Success	11	Andhra Pradesh, Assam, Chhattisgarh, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan
Failure	6	Bihar, Jharkhand, Kerala, Tamil Nadu, Uttar Pradesh, Uttarakhand
Pressure to Reform		
Capacity	18	Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Uttarakhand, West Bengal
Finance	17	Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal
External	11	Andhra Pradesh, Assam, Gujarat, Haryana, Karnataka, Madhya Pradesh, Orissa, Punjab, Rajasthan, Uttar Pradesh, West Bengal
Obstacle to Reform		
Labor Union	12	Andhra Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Uttar Pradesh
Agricultural Lobby	7	Andhra Pradesh, Karnataka, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh
Electoral Opportunism	5	Andhra Pradesh, Haryana, Tamil Nadu, Uttar Pradesh, Uttarakhand
Partisan Conflict	3	Haryana, Himachal Pradesh, Rajasthan

Table 2: Summary count of states per outcome, pressure, and obstacle identified.

	Complete Success (3)	Partial Success (11)	Failure (6)
Pressure to Reform			
Capacity	3	9	6
Finance	3	9	5
External	2	8	1
Number of pressures per case	2.67	2.36	2.00
Obstacle to Reform			
Labor Union	1	6	5
Farming Lobby	0	4	3
Partisan Conflict	0	2	1
Electoral Opportunism	0	3	2
Number of obstacles per case	0.33	1.36	1.83

Table 3: Cross-tabulation of reform outcome and pressures/obstacles to reform identified. The gray rows indicate factors that are clearly associated with partial success and failure.