Regulation in developing countries is different: avoiding negotiation, renegotiation and frustration

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Abstract

Developing countries are implementing a wide range of energy sector reforms. All of these involve a series of steps to set up credible contracting frameworks (e.g. regulatory offices, competition commissions). Evidence indicates such regimes are not succeeding in avoiding protracted, expensive renegotiations between private investors and the institutions designed to oversee the new regime. One potential solution is the increased use of options in privatisation contracts. Such options can be designed to decrease the incentive for requests to renegotiate from investors seeking solely to extract further concessions and to provide clear signals about the profitability of investment opportunities.

Keywords: Regulation; Enforcement; Contracts

1. Introduction

Governments in many developing and transition countries have embarked on programmes to privatise and, where necessary, regulate energy services (e.g. see Stern, 2000). In many countries, these programmes have been driven by the failure of government owned monopolies to provide services for a large proportion of the population. Elsewhere, they are driven by the need for new investment to meet growing demand (e.g. see Baer and Cavalcanti, 2001).

Despite extensive support negotiating the associated contracts and setting up regulatory regimes to ensure that these programmes meet local needs there have been few notable successes. A World Bank database of the large-scale infrastructure privatisation programmes in Latin America indicates that concessions—contracts that are typically designed to last 15–30 years—are renegotiated on average after only 2.1 years (Laffont, 2001). Outside Latin America the record for attracting and retaining needed investment in the electricity sector is worse:

- private investments in generation, in countries ranging from India to Tanzania, have degenerated into legal battles over payment and contractual terms; and
- efforts to effectively regulate monopoly networks are in danger of falling apart in several countries (e.g. in the Indian state of Orissa extensive reforms are threatened as the regulatory framework struggles to...
deal with events since privatisation, in Argentina the recent financial crisis threatens existing contracts).

This evidence, as well as indications of similar problems elsewhere in the world, is leading to a growing recognition that regulation in developing countries is different. It is different for many reasons but most importantly because the lack of an explicit institutional framework for enforcing contracts. ¹

The absence of such a framework substantially increases the cost of investment and threatens to unravel programmes designed to increase service provision to the poorest members of society, increase growth, productivity and the wealth of many nations. At the same time, it has taken hundreds of years to develop credible enforcement regimes in more developed economies. Simply transferring contractual and regulatory mechanisms from developed to developing countries, under the assumption that enforcement against the opportunistic behaviour of investors will also work in the same manner, is increasingly discredited, as the evidence quoted above illustrates. Consequently, it is important to develop new mechanisms that will work under the institutional regimes that exist in developing and transition countries.

This paper explores the issues raised by the opportunistic behaviour of investors and suggests one potential solution. There are seven further sections. The next section provides some background on typical approaches to regulation and contracting in developing countries. Section 3 highlights some important issues that have arisen from the adoption of this approach. Section 4 identifies the components of the problem. Section 5 defines the problem. Section 6 provides a theoretical framework in which new solutions can be found. Section 7 contains a warning about the limitations of these solutions and Section 8 summarises the paper.

2. The typical framework

The introduction of large private sector investment to the energy, and particularly electricity, sectors of developing countries is frequently accompanied by industry, market and regulatory reforms (Holder and Stern, 1999).²

Regulatory reforms can generally be classified into one of two categories.³ One regime involves the creation of single or multi sector regulators with a relatively large amount of discretion over the treatment of public and private service providers. This discretion may be exercised in a number of ways, including:

- issuing licenses;
- setting maximum prices;
- determining quality and form of service obligations; and
- ruling on disputes.

These regimes, sometimes termed license-based regimes, are often based on the initial reforms in England and Wales. Under these reforms regulatory offices with substantial de facto discretion were created.⁴ A number of developing countries (e.g. India, Uganda, Ghana) have adopted similar license based regimes as part of their power sector reform programmes. The ability of the regulatory institutions created under this system to exercise its discretion and enforce the associated contracts is provided through a series of measures designed to guarantee its independence. This typically includes three categories of measures:

1. Funding: creating a source of funding for the agency that is independent of the government's budget allocation process. This may involve some form of direct levy on the industry that is then used to finance the regulatory office.
2. Appointment and dismissal: transparent procedures for appointing officials to lead the regulatory office and clear, limited guidelines setting out the conditions under which they can be dismissed.
3. Position: setting up the agency outside the direct control of a specific ministry or government organisation.

These measures are designed to protect the regulatory institution from undue influence by any single stakeholder. This allows it to effectively enforce the regime it is designed to protect.

The main alternative to license-based regimes are often termed contractual regimes. Under these regimes much of the discretion handed to the regulator in license-based regimes is instead spelt out in detail in a

³In practice, there is a wide range of approaches and no clear delineation between the two categories to be discussed (e.g. Jannsens, 1999; Littlechild, 2001). However, for the purposes of this paper, these differences are not of central importance.

⁴While subsequent reforms in other countries have often assumed that the regimes set up in England and Wales provided regulators with strong legal support for this discretion, in many instances this was not the case. Instead regulatory power was a function of the strong institutional framework that existed within the UK, rather than explicit legal powers provided in the Acts. This is another illustration of the importance of institutions in successful contract enforcement, rather than specific legal rules or procedures.
contract signed between the service provider and a government representative. In the case of disputes over the application of the contracts, or in the case of unanticipated events, resort is often made to the existing judicial system, or in some cases to special competition commissions. In recognition of the impossibility of writing complete contracts, many of these regimes create regulatory institutions to help interpret, and in some cases act on, the contracts. This was the approach preferred by many Latin American countries where long-term concessions were signed and are supervised by regulatory offices (Baer and Cavalcanti, 2001; Levy and Spiller, 1994). While license-based regimes are heavily influenced by the British experience, contractual regimes are often influenced by either the American or French institutional structures.\footnote{For example, North and West African countries tend to follow French contracting frameworks, while Central and Southern American countries are more influenced by American approach to regulation.}

3. Issues arising from the framework

For over a decade an energy company, Enron, through their Indian subsidiary (the Dabhol Power Company, DPC), tried to first construct and then run the largest single investment in the Indian power sector—the Dabhol power station in the Indian state of Maharashtra. Prior to Enron’s recent bankruptcy, the latest in a long series of disputes was over Enron’s allegations that they were owed about US$45 million in unpaid bills by Dabhol’s only client—the government owned Maharashtra State Electricity Board (MSEB). The government, in turn, alleged problems with the generating station required penalty payments by DPC that exceeded this amount.

Notwithstanding current bankruptcy proceedings against Enron in the United States, one particular element of this latest case is of particular relevance for this paper. When the dispute reached the courts the first issue that had to be resolved was one of jurisdiction.

Before settling the issues of the case, a decision was required about which of several authorities had the power to rule on provisions in the contract. Enron, DPC and international financial institutions who lent money for the project argued that the case should be heard by an international arbitration panel based in London—as provided for in the contract signed by DPC and the MSEB. The Government of Maharashtra, through the MSEB, argued that jurisdiction actually lay with the Maharashtra Electricity Regulatory Commission. This illustrates one aspect of the problem faced by developing countries—regardless of the abilities of the staff in their regulatory institutions, they will not be given the chance to establish credibility by investors unwilling to risk substantial amounts of money on unruly institutions.

The resulting conflicts ultimately dissuade further investment.

This is far from an isolated case. Basanes et al. (1999) document the plethora of disputes that have arisen following privatisation programmes in Chile. In addition, the figures quoted in the Introduction about average time to renegotiate concession agreements all clearly point to the importance of the issue.

These and other examples illustrate the difficulty of establishing credible regulatory and contract enforcement regimes in developing countries. The recommended approach of creating legally independent regulators through mechanisms outlined in the previous section is a necessary step. However, it is not sufficient. It has not prevented extensive, and expensive, renegotiation, disputes and acrimony between existing and potential service providers and the regulatory institutions designed to ensure consumers’ needs are met at least cost.

These problems were explicitly recognised in the World Bank’s 2001 World Development Report that commented:

There is a growing consensus... that regulation, particularly in poor countries, must be designed with an appreciation of both information asymmetries and difficulties of enforcement, quoted in Laffont (2001)

Despite recognition of the general problem there has been relatively little change in the basic regulatory and contractual frameworks that reforming countries are currently being encouraged to adopt. They are still overwhelmingly predicated on two factors:

1. The existence of adequate and credible institutional capacity: this includes not only the skills of individuals working within the institutions in question but also the credibility of the institutions (see Stern 2000 on skill requirements).

2. Willingness of investors to submit to their jurisdiction: regardless of measures to ensure independence and credibility, if investors are unwilling to accept rulings of regulatory institutions (whether regulatory offices or courts) the system breaks down.

Evidence to-date indicates that in many developing countries neither of these factors exists.

4. Components of the problem

Laffont (2001) demonstrates that the quality of enforcement decreases as a function of two

\footnote{Some standard measures are often recommended (e.g. creating multi sector regulators rather than single sector regulators to minimise the need for people with scarce skills). However, these do not solve the central problems discussed above.}
parameters:

1. **The cost of public funds**: the cost of raising the money required to implement an enforcement regime, such as a regulatory office or commercial court.

2. **The efficiency of ex post bargaining**: the benefits that the private operator can gain from forcing renegotiation of a contract or licence.

The corollary to the decreased quality of enforcement is the increased likelihood of renegotiation as the cost of public funds and benefits from ex post bargaining rise. The essence of the problem in developing countries lies in these two problems: governments cannot collect sufficient revenue at a sufficiently low cost to create credible enforcement mechanisms and, potentially more important, the continued belief by private operators that the costs of ex post renegotiation are small relative to the likely benefits. This latter problem leads to a vicious circle of renegotiation, loss of credibility and renegotiation that regulatory regimes may not survive. The mere existence of repeated renegotiation, regardless of its result, increases the costs of new entry and so discourages needed investment.

In order to characterise a potential solution to the problem, it is first necessary to understand the reasons for contract renegotiation.\(^7\) There are three main reasons for a profit maximising company to attempt to renegotiate:

1. **Exogenous constraints**: an efficient company operating in a new institutional environment may underestimate the cost of running its business and, therefore, pay too much for the right to operate. For example, companies used to operating within more developed economies often find that the costs associated with employment decisions and the collection of money owed for services are much higher in developing countries. Labour laws and strong unions prevent rapid, low cost redeployment of labour.\(^8\) Similarly, lack of infrastructure for collecting bills makes collection of money owed, for example, for the provision of electricity much more difficult, and expensive.

A company entering a new country may underestimate these costs and, once the level of costs becomes apparent, seek to renegotiate its contractual obligations.

2. **Exogenous events**: the cost of insuring against many natural disasters, social unrest and other exogenous events may deter companies from doing so and, instead, rely on renegotiation should such events adversely affect their operations. For example, the super-cyclone that hit the Indian state of Orissa and destroyed electricity networks led to extensive negotiations between private operators and the regulator over appropriate compensation, as has the financial crisis in Argentina. Elsewhere, economic events that are exogenous to the power sector (e.g. exchange rate depreciation, unexpectedly low demand) have also led to renegotiation of contracts (Basanes et al., 1999).

3. **Endogenous manipulation**: knowledge that contractual institutions are weak may allow companies to take advantage of weaknesses to renegotiate contracts in order to extract a higher return once they have a better understanding of the operating environment. Such renegotiation will be based on the argument that the costs incurred by the company are unexpectedly high for of the two reasons presented above. Problems arise because in practice it is often difficult for regulators or other institutions to distinguish between unexpectedly high costs caused by exogenous constraints and endogenous manipulation.\(^9\)

The central problem facing governments and other regulatory institutions in developing countries is distinguishing between these motivations for renegotiation. In particular, distinguishing between the first and third reasons for renegotiation. Companies that attempt to renegotiate will claim that the first reason (exogenous constraints) is the case even if renegotiation is motivated by the desire to manipulate a weak institution.

### 5. Definition of the problem

Standard economic arguments imply that the large sunk costs associated with power sector, and more generally infrastructure, investment place regulatory institutions in a strong bargaining position. A company that undertakes substantial investment is unlikely to be able to re-sell or remove those assets should they decide to pull out because of unexpectedly high costs.\(^10\) However, the fact that the government must interact

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\(^7\)The rest of this paper uses the term *contract renegotiation* to refer to both types of regimes outlined above, i.e. license and contract based regimes. Under the former, renegotiation in effect comes in the form of a rejection of the authority of the regulator while in the latter in the form of the rejection of the regulatory instrument—the contract.

\(^8\)These laws may be appropriate but they impose costs on new investors.

\(^9\)Clearly exogenous events, such as natural and economic disasters, are more readily observable and so less subject to dispute. However, even in these cases there is scope for disagreement. For example, unexpectedly low demand may arise from an exogenous event or a failure on the part of the company itself (e.g. failure to invest appropriately).

\(^10\)There are importance exceptions to this statement. For example, generating companies in Colombia have demonstrated they can build generators and, if need be, dismantle and export them if faced with opportunities for better returns elsewhere.
repeatedly with many investors changes the strength of its bargaining position. The rest of this section examines this in more detail.

If governments were able to credibly make contracts take-it-or-leave-it deals once signed then renegotiation would potentially be much more expensive—in effect there would be no renegotiation, either the company would continue under its existing contract or it would leave. If this worked then it would quickly distinguish between the three reasons for renegotiation outlined above: companies facing exogenous constraints would leave while those faced with exogenous events or considering endogenous manipulation would remain. Formally:

Under exogenous constraints:

\[ \text{TC} = F + VQ \quad \text{and} \quad V > p. \] (1)

Under both exogenous events and endogenous manipulation:

\[ \text{TC} = F + VQ \quad \text{and} \quad V \leq p, \] (2)

where \( \text{TC} \) is the total cost of operation, composed of fixed costs, \( F \), and variable costs, \( V \), with output \( Q \) and a unit price \( p \).

In other words, only under the first reason for renegotiating, exogenous constraints, is the company not able to recover its operating costs and so would be willing to exit. Consequently, if the government (regulator or other agency) is able to credibly refuse to renegotiate they would quickly be able to distinguish between real problems (exogenous constraints) and manufactured problems (endogenous manipulation).\(^{11}\)

The problems arise because governments in developing countries are not able to credibly refuse to renegotiate for a number of reasons specific to developing countries. The two most important of these are:

1. **Effect on subsequent investment:** the failure of a government to successfully conclude a renegotiation will affect subsequent investment by foreign companies across all other sectors of the economy. One factor that was pushing both central and state-level Indian governments towards resolving the Dabhol problems was the potential reaction of the international investor community, across all sectors of the economy, should renegotiation fail to lead to an outcome that was accepted by all sides. The danger of losing investment from other companies in other sectors makes it difficult for governments to reject requests for renegotiation.

2. **International arbitration rulings:** lack of credible domestic judicial institutions means that many agreements are often subject to arbitration by extra-national bodies. If the rulings of these bodies were based purely on the merits of the case this may not present a problem. However, international corporations often have more money to devote to such actions and have greater experience arguing before such institutions. To the extent that this provides them with greater chance of success governments may be more likely to settle requests for renegotiation.

Neither of these two externalities applies to the same extent in more developed economies. Consequently, governments in more developed economies can often credibly threaten not to renegotiate contracts, while governments in less developed countries are increasingly finding such a threat is not credible.

In the absence of such a threat, and most importantly recognising that demands for renegotiation will continue, it is not sufficient to create standard regulatory regimes. The license or contract based regimes with independent authorities protected by the mechanisms outlined above developed in line with those that work in more developed economies are not sufficient to effectively govern the sector. Instead, additional mechanisms are required to create clear incentives on companies to only renegotiate if exogenous constraints render continued operation unprofitable.

6. **One solution**

One potential mechanism is the introduction of options into standard privatisation contracts.\(^ {12} \) An option provides the holder with the ability to acquire an asset under pre-arranged conditions (e.g. for a particular price).\(^ {13} \) Under the conditions outlined above, the key is to design an option that is valuable to the company if renegotiation would be prompted by either the second or third reasons (i.e. exogenous events or endogenous manipulation). Formally:

The company maximises:

\[ R = [F + VQ] + [R_0 - C_0], \] (3)

where, \( R \) is the present value of revenue earned over the lifetime of the contract, \( F \) and \( VQ \) are the present value of the fixed and total variable costs incurred over the lifetime of the contract, \( R_0 \) is the present value of the

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\(^{11}\) The rest of this paper focuses on these two events because the second option—exogenous events—is much more readily observable by all parties and a relatively clear framework is usually in place to handle such events (e.g. force majeure clauses, insurance policies).

\(^{12}\) The term **privatisation contract** encompasses the range of privatisation options from equity sales through concessions, including the privatisation of existing assets (e.g. sale of generators or distribution companies) and greenfield investment and to both licence and contract based regimes.

\(^{13}\) For example, see Trigeorgis (1996); Copeland and Antikarov (2001).
revenue associated with the option, $C_o$ is the present value of the total cost associated with the option.

The mechanisms requires that:

$$[R_o - C_o] \geq 0 \text{ if and only if } R - [F + VQ] \geq 0.$$  \hspace{1cm} (4)

Under this mechanism, a company whose unit revenue exceeds its costs would exercise the option. Therefore, a company who chose to exercise the option would not be able to credibly attempt to renegotiate the contract. If the option is exercised then condition (1) cannot apply and this is the only potentially valid reason for requesting a contract to be renegotiated. Similarly, if the option is not exercised then a valuable signal is sent to the government that there are exogenous constraints (e.g. labour laws, collection problems) that are having a significant impact on the expansion of energy services to the population. This may provide the government with added evidence in the often difficult debates over reforms associated with increased energy, and infrastructure, provision.

Such options are not new. For example, the Peruvian government added a variant of this option mechanism to a copper mine that it privatised. The bidding documents for the right to explore an area where copper mining could be developed requested that companies’ bids include an exercise price at which they would be granted the right to develop the mine further (see Moel and Tufano, 1997). Clearly if the winning bidder exercised this option they were signalling they thought the opportunity sufficiently profitable. Similarly, any company choosing to exercise the option outlined above would signal that, notwithstanding any attempts to renegotiate, they consider their operations to be profitable.

7. A warning

The mechanism developed above is intended to provide an additional signal about the cause of the problem. A company could not credibly exercise the option and try to renegotiate its contract—a profit maximising company would not undertake both actions because they are internally inconsistent, by design. However, the precarious nature of many formal enforcement mechanisms in developing countries means that companies may very well try to undertake both actions.\footnote{Or variations—for example, exercise the option and try to renegotiate after a period of time claiming that only after exercising the option did exogenous constraints become evident.} Ultimately there is no quick fix to establishing regimes that make the commitment to reject requests for renegotiation credible. However, the careful design of options with the general properties outlined above should help to provide a win-win situation:

- companies that enter the market and find it profitable have an opportunity to increase their operations at minimal additional cost (e.g. they may avoid the costs associated with a competitive bidding process or further negotiations) through the option, with the associated investment and expansion of services to the population; and
- governments will have added evidence to reject spurious requests for renegotiation and a relatively cheap mechanism for encouraging successful companies to expand output through the option.

8. Conclusions

The negotiation of contracts is difficult. The enforcement of finalised contracts in less developed countries is proving even more difficult. Regardless of the institutional framework, it has long been recognised that unless the benefits to both parties exceed the cost of breaking the contract the agreement will fail. This encompasses not only the explicit return to both the company and consumers but a wide range of factors that fall under the general category of the perceived fairness of the contract.

Developing countries have particular difficulties in enforcing contracts because governments cannot credibly threaten to refuse to renegotiate in the face of requests for additional revenue. Consequently, it is not possible to simply transfer regulatory frameworks from more developed economies to countries with very different institutional frameworks. The surprising frequency with which infrastructure contracts generally, and energy contracts specifically, are renegotiated illustrates the magnitude of the problem.

The solution to this problem lies in providing incentives for companies to continue operating unless operations are truly unprofitable—rather than trying to exploit the institutional regimes to extract rents when operations are profitable. One possible means of providing these incentives is to increase the use of options in privatisation and reform programmes—creating options that profitable companies are likely to take up and unprofitable companies are likely to reject. These serve both as a signal of the true degree of profitability and also provide clear incentives to renegotiate only when exogenous constraints mean that operations are unprofitable. The option would have to be designed to meet the specific requirements of the country and circumstances in question. The next step is to develop such mechanisms in specific reform programmes to avoid future frustration over the repeated renegotiation of supposedly final agreements.
References


