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Power Sector Reform: Experiences from the Road

Most privatization-focused power sector reforms in developing countries have stalled, and some have been abandoned in all but name. The authors, with extensive experience in implementing such reform efforts, offer their thoughts on why there is so little to show for the expenditure of so much time, thought, and treasure. Their explanations range from inadequately planned transitions to the difficulty of changing entrenched mindsets among those who are asked to manage privatized utilities.

Michael B. Rosenzweig, Sarah P. Voll, and Carlos Pabon-Agudelo

I. Introduction

In the past decade, it has become received wisdom that the road to the viability of government-dominated power sectors, especially in the emerging markets of developing countries, is the corporatization and privatization of the state-owned enterprises. The multi-lateral lending agencies and bilateral aid agencies have provided studies, advice, and funding to design power sector reforms that

unbundle the integrated enterprises, privatize at least the generation and distribution segments, and create independent regulatory agencies to oversee them.

But most of these privatization-focused power sector reforms have stalled, and some have been abandoned in all but name. This article attempts to analyze the question of why there is so little to show for the expenditure of so much time, thought, and treasure. We have based our

analysis on the experience gained working in the international power arena since the early 1990s and, more importantly, from being on the ground facing the daily challenges of implementing reform efforts.

The remainder of this article is divided into three sections. In the first, we raise issues related to the inconsistency of the objectives among international agencies and host governments, the lack of understanding about the implication of the models adopted, and the unrealistic expectations for the results of the reform. In the second, we address the issues of incompatible conditions that surrounded the implementation of complicated reforms and complex models, the crucial importance of the transition period, and the inherent challenge of former state-owned utility employees adapting to the new "privatized" environment. In the last section we offer some observations and conclusions.

II. The Mismatches

A. The inconsistent objectives

The starting point for our analysis is the inconsistency between the objectives of the multilateral lending agencies and bilateral aid agencies on the one hand and the host governments on the other. Beginning in the middle of the 20th century, the international funding agencies invested enormous sums, using both grants and

loans with ultimately dubious repayment records, in large-scale energy projects, especially hydroelectric and coal generating projects. By the last decade of the century, policymakers of these agencies realized that their lending and grant practices with regard to the energy sector were deeply flawed. Even putting aside any skepticism about whether the funds were effectively disbursed to achieve their intended pur-

The fundamental aspiration that private investors could magically ensure that utility prices could fall while the quality of service improved and profits flowed back to the parent was doomed to failure.

poses, agency heads realized that such projects were inconsistent with the developing agency policies (e.g. environmentally friendly, alleviation of the poverty of the poorest segments of society) and ultimately had not produced improvements in quality of service to customers. The situation facing the power sector, their customers and, in most locations, the governments that controlled the sector, was bleak: inadequate and low quality service, poor physical condition of assets, inadequate level of assets to satisfy current unmet needs and future growth, and a significant claim on the treasury.

The objective of the international agencies in promoting privatization-focused reform of the power sector, then, was to end the funding of inefficient power sectors, both by the governments and the agencies themselves, so that public monies could be dedicated to those activities that only government could do or did best: education, health, public safety, etc. Ultimately, they hoped that the improvements in productive efficiencies that would flow from private sector management would result in stable or lower prices in real terms. However, they recognized (though not stating so publicly) that at least in the short term, higher prices would be inevitable in order to provide internally generated funds for improving power systems. Further, there was no doubt that prices would increase for some customers in the first stages of privatization. Private ownership requires commercial operation (i.e., production of a return for shareholders), and commercialization requires "tariff rationalization," i.e., the elimination of subsidies and cross-subsidies that had benefited previously favored classes of customers.¹

The host governments generally concurred in the importance of lifting the financial burden the sectors imposed on the treasury through the sale of state assets, the elimination of public subventions to deficit-ridden enterprises, and the expansion of the corporate tax base. They also recognized that for many the scale of investment required was simply beyond their

reach. For example, the driving force behind restructuring in Brazil and other Latin American countries was the lack of funding to expand their hydroelectric systems to meet growing load and to reduce their exposure to hydrology by diversifying their systems with new thermal power plants.

However, the host governments rarely bought into the broader philosophical or theoretical schema of the international agencies, which deemed the introduction of market mechanisms and competition to be goals on their own. The host governments were more likely to attribute the problems of their ailing power sectors to specific failures in the sector rather than an all-encompassing structural misalignment with rational economic incentives. State government officials in India, for example, blamed the power sector's ills primarily on the corruption in the State Electricity Boards that resulted in technical and non-technical losses of over 50 percent. Indeed, a primary motivation for the host governments was often not a conviction in the correctness of the structural solutions, but simply the ability to access the large loans and grants that the funding agencies held out as bait to "get with the program."

B. The implications of the chosen models

In addition to the dissonance between the international agencies and host governments over

the objectives of the reform, the privatization-focused restructuring model promoted by the agencies and adopted by the governments had certain implications and obligations that in all probability neither party truly understood and accepted. A model whose goal was to diminish the role of public funding in the power sector while improving the quality of service to customers necessarily relies on private

There is one axiom about investment of private capital—it is voluntary.

investment, first to purchase the state-owned firms and then to upgrade the physical and human capital of the money-losing enterprises.

There is one axiom about investment of private capital—it is *voluntary*. Governments or sectors desiring private investment must *attract* that capital. For capital to be attracted, investors must perceive that they will have an opportunity to earn return of and an adequate return on their investment including compensation for risks. The financeability of a utility in the power sector requires compensatory rates based on an adequate return. In

order to fund new investment the utility must be able to persuade its shareholders that investments in its particular enterprise are at least as profitable as opportunities of similar risk elsewhere, and potential lenders that their loans will be serviced and repaid in accordance with the loan agreements. Utilities provide these assurances by maintaining adequate revenue and profit streams and balance sheets. To do this, their tariffs must be capable of providing revenues that cover operation and maintenance costs including fuel, and that provide a return of and an adequate return on their investment.

There is nothing particularly radical or even new about these implications and obligations. They have been the foundation, in both financial and legal terms, of the framework for independent regulation of investor-owned utilities in the United States for 75 years. They are the classic regulatory tenets: Regulated utilities are expected to provide "safe and adequate service at just and reasonable rates," and to achieve that goal, investors in the utility must be allowed the opportunity to earn a return that is

sufficient to assure confidence in the financial soundness of the utility, and . . . adequate, under efficient and economical management, to maintain and support its credit and enable it to raise money necessary for the proper discharge of its public duties.²

Good regulation thus balances the interests of shareholders and consumers in the short term –

returns and tariffs – and recognizes that in the long term those interests converge.

However, these implications and obligations were new and radical for many of the host governments adopting reform. They were accustomed to state-owned enterprises that operated without regard to commercial principles and they freely used the entity as a vehicle for social goals such as non-compensatory tariffs for favored classes, for employment through bloated payrolls, and for allowing a cascade of non-payment by delinquent government agencies. As long as the utility was state-owned, and probably purchasing its raw materials from other state-owned enterprises, this disregard for commercial principles was superficially sustainable. The enterprises survived by deficit spending covered by government outlays and/or by not paying its own bills, relying on periodic global settlements for the sector. In the new world of privatization-focused reform and restructuring, such incestuous relationships and accommodations are no longer possible.³ Without stopping such governmental intervention, the sector will not become financeable since the threat of inadequate revenues, uncontrollable expenses, and decapitalization of private assets are guaranteed to discourage both private investors and the financial institutions that lend them funds. This threat is especially problematic in the power sector with its long-lived, immobile assets.

Government must recognize its new role if reform is to be successful. It sets energy policy, not electricity tariffs. Tariffs must be set to cover reasonable costs and an adequate return to ensure the sector's financeability and not set to ensure the reelection of the political incumbents. It must act as a responsible customer and pay its own bills in a timely fashion. It must cede managerial control of the enter-

Government agencies may fail to recognize the requirement that the utility must be financially sound and able to raise capital.

prise and not interfere with service and personnel decisions or expenses will not be controllable and operations will not be efficient. And it must demonstrate a sustained commitment to the sector, providing subsidies for any non-compensatory rates it mandates and making available its police powers to enforce the laws against theft. Importantly, it must establish "bright lines" between the roles of sector, regulator, and government. It must allow the sector and the regulator to be truly independent of the government to reassure potential investors that their investments do not face the risk of

being used to meet political imperatives that are inconsistent with commercial imperatives.

Government actions or regulatory commission decisions may attempt to maintain the old approaches and relationships—government agencies may continue to turn a blind eye toward theft of service, and regulators may decline to pass through to customers agreed-upon costs. They may fail to recognize the requirement that the utility must be financially sound and able to raise capital. But such actions are destructive to the future attraction of capital and therefore ultimately to the reform and its objectives.

C. The unreasonable expectations of the results of reform

As a result of misunderstanding (or if understanding, then not truly accepting) the implications and obligation of the reform model they were espousing, the international agencies, the host governments, and the private investors had unrealistic expectations of the results of the reform to some degree.

First, the international funding agencies thought that transferring the state-owned enterprises to the private sector would do more than merely shift fiscal responsibility of the power sector from the public to the private domain, and improve productive efficiency and eliminate waste. The transfer would also imbue managers with an entrepreneurial spirit, motivate the workforce, create incen-

tives to enter new markets and exit unprofitable ones, and improve corporate governance by subjecting the firm to the discipline of the market. The new managers, with new attention to their bottom lines and responsibilities to their stockholders, would resolve issues of inefficiency in administrative and technical operations, billing and collection, and by themselves be able to deal with the internal and external issues of corruption. Further, like all good private businessmen, they would be responsive to the needs of their customers so that the quality of service would improve.

Second, like the funding agencies, the host governments also assumed that privatization would free them of power sector financing concerns. However, in many cases, they learned the wrong lessons from the European (especially the U.K.) privatization experience. There, the existing tariffs of the utility firms were largely cost-compensatory and the quality of service was generally acceptable. The problem of European enterprises was the accretion of X-inefficiency, which, when wrung out of the company, resulted in lower prices to consumers. Many host governments in developing economies assumed that their utilities would be able to follow similar paths. Thus they assumed not only that privatization would free up public funding for a laundry list of worthy social programs, but anticipated (and promised their constituents) that electricity

prices would fall and service would improve. Further, if such prices decreases did not materialize, elected officials also took comfort that they could blame the newly established regulator for any tariff increases.

Third, privatization has also been characterized by an element of gaming. Host governments have had a tendency to view the deep pockets of the international private investors as targets for a

Investors thought they could get rich by out-bargaining host governments (who would be less sophisticated at these types of transactions).

game of "gotcha." Investors whose due diligence did not uncover factors that turn out to undermine the financial feasibility of the company are perceived as being stuck with their bargain, even when it hampers the utility's ability to attract capital. They become a source of (involuntary) subsidies as they are expected to meet the promised quality standards while restricting tariff increases to some contractual or politically acceptable level.

However, the gaming has not been only on the side of the host governments. The lure for U.S. and European utilities to invest in overseas markets was presu-

ably the opportunity for higher levels of profits at an acceptable level of risk. U.S. utilities, facing stagnating growth and perhaps resigned to losing market share at home, were eager to obtain a share of the growing energy markets abroad. The privatizations were occurring both when domestic electricity sales growth neither required nor provided the opportunity for large-scale internal capital investment, and in the midst of the longest boom in the American stock market. As *The Economist* phrased it at the time, "a great deal of money is looking for exciting investments."⁴

Investors thought they could get rich by out-bargaining host governments (who would be less sophisticated at these types of transactions) and that they could fulfill the conditions of their concession contracts by lowering costs through better management.⁵ The contracts were almost always made by "deal makers," who were concerned primarily with "doing the deal," "growing the company" and "expanding its footprint," at winning the "game" against other international players. They ignored or failed to appreciate conditions on the ground that did not fit into their worldview. They saw the opportunities but did not truly understand nor appreciate the central role of regulation in the life of a regulated utility, and signed deals without a clear view of long-term regulation and attendant risks. They certainly did not fully appreciate the total loss of negotiating leverage after the invest-

ment in long-lived, immobile assets had been made. And they took for granted what has been termed “economic legality,”⁶ that is, the rule of law rather than the discretion of leaders in the economic sphere, comprised of a mutually consistent set of laws and the belief by the population in their stability and enforcement. In short, there was a mismatch between the short investment horizon of the dealmakers and the long investment horizon of the sector.

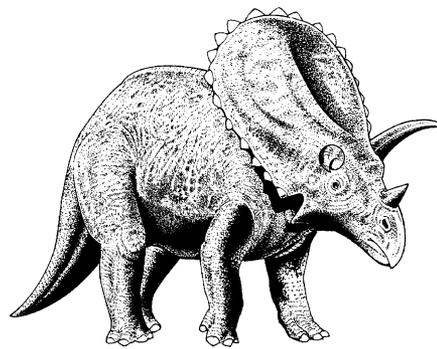
The fundamental aspiration that private investors could magically ensure that utility prices could fall while the quality of service improved and profits flowed back to the parent was doomed to failure. In most cases, political involvement in tariff process prior to reform had resulted in non-compensatory tariffs. Improved billing and collection, rationalization of the workforce, and greater technical efficiencies, even where successful, were insufficient to improve revenues and reduce costs sufficiently to upgrade service without tariff increases. The international agencies argued, probably correctly, that prices had to rise first to make system improvements possible, that efficiency would improve, and that in the longer term costs would be reduced and tariffs stabilize. However, increases in prices ahead of service improvements is a difficult package to sell to the rate-paying voting public, a lesson that politicians learned only too quickly

and regulators and investors only too well.

III. The Ground Realities

A. The complexity of the reforms

One of the factors that compounded the difficulty of



attempting to reform a power sector, especially in developing economies, was the frequent imposition of unrealistic time frames/schedules/conditions to design and implement what are highly technical tasks. It is an inescapable fact of life that the fundamental reform of a power sector is an extraordinarily complex undertaking, whether it is only introduction of management contracts or an attempt to introduce a fully unbundled, competitive sector. It was almost always the case that the funding agency staffs, politicians, regulators and the sector participants (including the host government) had no conception of the difficulties involved—the scale and scope of

needed changes and the implications of reforming the “ground reality” of the physical, social, legal, commercial, and political constraints.

The most critical factor in a viable reform process is government’s will to support necessary changes when faced with the prospect of higher prices for power that opponents would criticize vigorously. Without it, reforms fails. In the absence of such a commitment, any reform is seriously handicapped. The design of the reform generally takes for granted the existence of the necessary political support to convince customers/voters to accept the inevitable burdens of the reform and the police power to enforce them. Without active support, the burdens of the reform in terms of increased costs and curtailing inconsistent or corrupt behavior by customers and employees could sink a reform before it could get going. This was especially a problem in those cases where it was widely known that government was the leading delinquent customer.

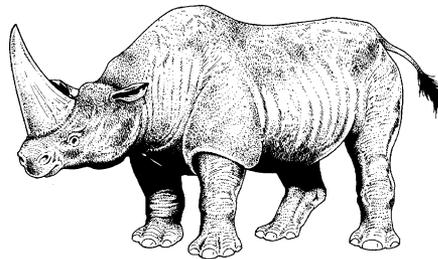
Frequently there was a perceived “window of opportunity” based on a compliant and/or interested incumbent politician who faced an impending reelection, the outcome of which could signal a reversal in political attitude towards reform. This overhanging threat of a cutoff in government support and permission manifested itself in deadlines for reform tasks that were totally unrelated to the scale,

scope, and difficulty of the tasks involved. This rush to introduce an “irreversible” step that would lock in future governments was counterproductive in several dimensions. There was very little time available to design a reform that recognized the capabilities of the sector and sector participants. The pressure to develop and finalize the reform also precluded any serious attempt to educate stakeholders about the nature of the reform and the specific responsibilities that each would need to carry if the reform were to succeed. As a result, there was very little sense of ownership of the reform by most sector participants, which was particularly problematic in the cases of utility employees and customers. In light of how poorly customers viewed most of the pre-reform utilities, there was very little customer appetite for absorbing upfront costs for the promise of future improvements in service quality or reductions in bills.

But in effect, there was no irreversible step; there was no magic that could force a new government that opposed reform on political or philosophical grounds to support it. Whatever the cause, it is clear that governments lacking the political will to see the reform through to implementation would lead in most cases to incomplete implementation or outright failure.

It is absolutely clear to the participants in the revolutionary reform that was attempted in Orissa, India, that the state government never exhibited the

political will necessary for the reform to have a chance of succeeding once the maverick Chief Minister B.J. Patniak passed from the scene. Instead, with unseemly haste the government simply washed its hands of the reform (after taking the monies offered by the international agencies as inducements) despite its statutory obligations to provide important



inputs such as subsidies to ease the introduction of cost-reflective tariffs. The government never took even the minimal step of ensuring that its agencies, at least, paid their bills.

Similarly in neighboring Andhra Pradesh, the Telugu Desam government under Chief Minister Chandrababu Naidu adopted a controversial Power Sector Restructuring Project, funded by the World Bank. The reform began well, with the regulatory commission laying out a multi-year strategy for unbundling the sector and commercializing the distribution entities in preparation for their privatization. However, rattled by a protracted agitation against the steep

hike in power tariffs in 2000, the TDP government refused to implement tariff hikes in subsequent years or to phase out subsidies for the power sector as stipulated in the restructuring project. Even so, the Congress Party was able to campaign against all power tariff hikes and promise free power for the farm sector, a major factor in its victory in the 2004 General Election.

In Brazil, the Cardoso government's effort at reform lacked the political force to complete all of the proposed elements, particularly the privatization of the largest generation entities, and the government never truly respected the independence of the sector regulator. The reform was still incomplete at the time of the last national elections. As a result, the performance of the reforms was, not surprisingly, disappointing for sector participants, customers, and the government. Most recently, the government, now in hands of the opposition party, has decided to re-restructure. In the name of lowering tariffs for end users and bringing stability to the power sector, it has abandoned the steps taken a few years ago to implement the reform. We must wait to see if the new approach produces the hoped for improvements of the reform.

B. The complexity of the market models and regulatory regimes

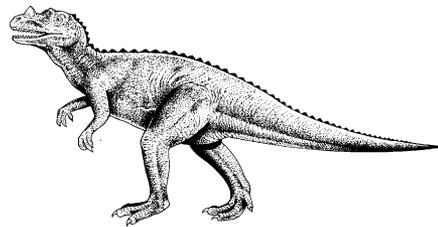
Another complicating factor that contributes to the lack of success in implementing reforms

has been a pronounced fascination with complex market models and regulatory regimes. There has been a clear compulsion to implement "state-of-the-art" market-based models that have been designed and, to some degree, implemented in other countries that are invariably endowed with a more highly developed power system that is in good physical condition and with compatible commercial and legal systems.

This compulsion for the leading edge seems to have stemmed from a variety of causes. It may be a source of esteem to have such advanced concepts in place, particularly for societies or governments that are denoted as "less developed" by the world community. Similarly, consultants and agency staff may feel compelled to demonstrate their intellectual stature by recommending and promoting the most modern thinking with respect to reform/market models. In many cases, it was what the various advisors knew, having themselves come from reformed sectors, most prominently the U.K. Finally, reformers and potential participants distrusted the reliability and functional independence of inexperienced regulators, who were likely to be vulnerable to political pressure (and in extreme but not unheard of cases to mob violence) and preferred these models that replaced regulatory discretion with mechanistic formulas and market discipline.

Unfortunately, proposing the design for a Boeing 747 to the

Wright Brothers is not a prescription for successfully carrying out the first heavier-than-air flight. The mismatch between capabilities and needs on the one hand and the requirements of the design on the other are easy to see in this overdrawn analogy. However, the concept captures precisely the problem of overreaching proposals in power sec-



tor reform: a gross mismatch between capabilities and needs of the reforming sector and host country and what is actually needed to carry out (at least an initial phase of) a state-of-the-art reform that is to make a substantive improvement in the sector.

But the predilection for cutting edge solutions to sector woes ignored the ground realities that made such solutions impracticable. Reforms, particularly those impelled by international agencies, were rarely pursued in highly developed and efficient power systems, in good physical condition providing customers with reliable and economical service, and benefiting from

compatible commercial and legal systems. Rather, most reformers were facing power sectors that could best be described as broken. Many were in serious states of deterioration with physical resources in poor condition and incapable of reasonably efficient or reliable production or delivery of electricity. Many were effectively bankrupt and only continued to operate because they had access to governmental treasuries. What proponents of advanced market designs failed to appreciate is that these designs assumed a very different state of affairs and violating these assumptions implicated both their theoretical and practical underpinnings.

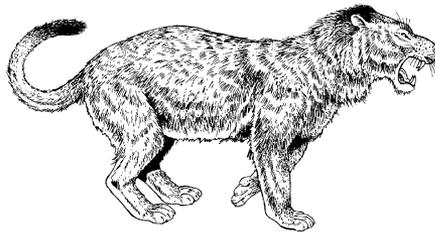
Aside from the inappropriateness of advanced designs for immature and dysfunctional sectors, the cutting edge proposals also ignored the size of the sectors relative to the scale of change and costs implicit in some of the innovations. For example, most "advanced" designs envision some degree of retail and wholesale competition with independent generating units competing to sell to a combination of multiple-distribution companies and large end-users. A power system with a maximum demand of 2.5 GW may not be a viable market for more than one seller. Moreover, creating multiple buyers creates the need for qualified staff and infrastructure for not only purchasing power efficiently but also dealing with the negotiation and contracting as well as the underlying planning process. In a small system and in a

sector not located in a labor market replete with such skills, this may prove difficult if not impossible to implement. It also means abandoning the scale economies associated with a single entity carrying out these functions. One last hidden hurdle, the costs of a settlement system for a multi-buyer, multi-seller system in an interconnected system with its attendant network issues could easily swamp the value of reform for the entire system.

In addition, most of the "advanced" designs had an independent regulator as an integral element. Early reform efforts had assumed a cost-of-service framework. Many were unsuccessful as governments and regulators were reluctant to implement the ongoing tariff increases that were required for the compensatory rates that could attract private investment. The crucial effect governments have on reform efforts through the appointment of regulators was only too clear as their appointment of bureaucrats or lapsed politicians rather than sector or technical experts weakened the reform at its fulcrum.

The "advanced" designs tried to correct this flaw by implementing performance-based regulation (PBR) with multi-year tariffs or rate caps. These schemes involved an initial period of reform during which investors presume a reliable flow of cash to fund the costs of operation and upgrading assets to meet the expected improvements

in performance. However, designers overlooked the extensive data requirements for executing these regimes and the lack of such data in unreformed sectors. Newly formed regulatory agencies would find that they could not implement these regimes because there was no way to make them work without the requisite data.



Even more fundamentally, multi-year schemes still ignored the lack of regulator capability to implement and adhere to innovative schemes. Private investors demonstrated very short investment horizons in light of the long-term nature of sector assets and assumed they would be able to achieve generous earnings that would rapidly return their investment. However, investors' success depended not only on their financial achievements, but on regulators having the independence and discipline to not change tariffs prematurely even if it appeared that the utilities were earning greater returns than the government had expected.⁷ That is a crucial pro-

mise in these regimes, and failing to adhere to that promise reduces the regime to standard rate-of-return regulation.

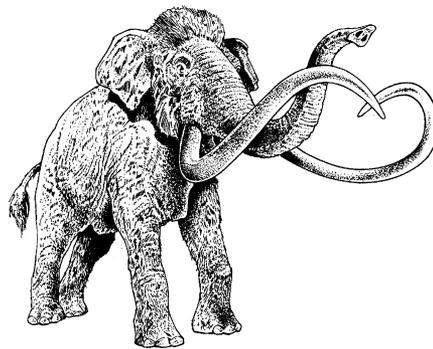
Further, compensating for regulator immaturity by restricting regulator discretion during multi-year tariff periods showed a serious lack of understanding that such innovative schemes must ultimately be subject to relatively sophisticated regulatory judgment. Both agency staffs and investors overlooked the very real possibility of subsequently discovering serious but hidden problems requiring significant but unforeseen investment. Under PBR regimes the regulator needs to decide whether these new costs should be reflected in tariffs. Correcting such malfunctions of a PBR system requires a competent regulator to apply sound regulatory thinking and judgment, one capable of understanding its proper role in the reform to make mid-course corrections rather than adhering mechanically to fixed tariffs while the utility faced high financial losses or degraded service. But one outcome of imposing regimes that strictly limit regulators from exercising judgment is that the regulators fail to gain the necessary experience and skills. Without that sophistication and experience there was little possibility that the regulators would be willing to increase tariffs in the face of social, political, and popular pressures even though good regulation would have dictated that result.

Cameroon provides a good example of the problem. The PBR calculations were based on a significant misunderstanding of the national hydrology and only three years into a 10-year plan, regulators are faced with decisions on cost recognition and quality of service standards that would challenge the most experienced regulators.

C. The transition period

One of the key observations that we made while we toiled in the trenches of power sector reform is: "It's the transition, stupid" (to paraphrase a famous campaign mantra). The least-considered and prepared-for part of the reform process turns out to be the keystone. The reform often requires the transformation of a physically, financially, managerially, and operationally challenged utility or utilities into a commercially viable, reliable, high-quality, and economically efficient entities. This is an enormous challenge. It requires not just investment and rehabilitation but changes in attitude and conceptualization of the role and purpose of the power sector by politicians and bureaucrats, customers and voters, and employees and managers. A universal failure to understand the nature, requirements, and threats to reform posed by the transition period, especially with respect to regulation, doomed many reforms before they had a chance to get started.

Designing the reform only to deal with the desired end-state is a recipe for disappointment.⁸ The capability of sector participants and sector assets and the mechanisms for regulatory control of generators and distributors embedded in the reform program typically assume that the sector has the characteristics of an already-reformed sector. This



overlooks the time period (potentially a long period) in which fundamental changes must take place and that the sector does not and cannot immediately display the conditions that are the final objective of the reform. Without mechanisms that are appropriate for this awkward intermediate state, the reform may fail because of inadequate ability to control developments and of progress that disappoints customers and politicians.

Among the barriers that a reform program must surmount as it makes the transition from the old world to the new are ground realities such as the immaturity of the sector in terms of quality of service, physical condition of the

system, and commerciality of the sector. Frequently reformers are starting with a governmental entity that is in a state of disrepair and has inadequate resources to simultaneously meet current needs, rehabilitate existing assets, and expand to satisfy unmet and future demand. The desired end-state is a fully functional utility providing reliable and high-quality service. It costs money to get from the start to the finish. Almost always, this means higher tariffs since government does not have the resources to fund subsidies sufficient to avoid charging customers more. Unfortunately, it also takes time for improvements to be implemented and to become visible to customers. During the transition period customer charges increase without any corresponding improvement in service. Customer and political resistance are the inevitable result.

Another issue that challenges the reform during the transition is historic corruption of customers, staff, and politicians. To some degree, that corruption manifests itself simply as theft. The same long-time Indian observer mentioned earlier comments, "It is extremely difficult to tackle this problem in an environment where everyone, big or small, including the politicians, bureaucrats, social workers, and people at large, are indulging, in a big way, in theft of everything," not only electricity, but income tax, sales tax, excise duty, and government revenues of all sorts. He asks the question: "In these

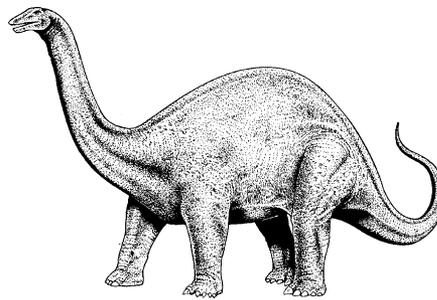
circumstances, can theft of electricity be singled out for corrective action?"

In addition, a truly reformed sector almost assuredly would end preferential treatment of favored customers who are typically politically influential (including government agencies themselves). Unions and other employee groups, especially in state enterprises, rightly fear that the usual overstaffing must come to an end if the utility is to be operated on a commercial basis. The threat of employees losing their jobs engenders resistance from special interests, and union political influence and employee labor actions put the reform at risk during the transition period.

The typical reform assumes that such distortions have been or quickly will be eliminated. All the forecasts of tariff levels and profits and investments are based on this ideal world. When the real world intrudes, the reform may find itself threatened by inadequate revenue streams to support the necessary investments required to produce the envisioned improvements, and the negative feedback loop continues.

The last transition issue that we have observed is perhaps the most important. There is a clear incompatibility of a regulatory regime designed for an end-state of a private-incentive-driven sector with the need to discipline what (during at least the first part of the transition) remains in effect a government utility. A state-owned utility is unlikely to achieve the improvements in

performance and reductions in costs that are necessary to the survival of the reform during the transition. But the control mechanisms available to the regulator in most reforms (whether state-of-the-art or not) are based on penalizing profits. A government entity does not respond to penalties to the entity's profits. So the regulator is a toothless tiger



and, barring special conditions such as outstanding leadership, the government entity will continue to act in the old mold. And the reform is at risk.

D. Persistence of a non-commercial mentality

A final factor that has compounded the difficulty of implementing successful reforms is the lack of success, even after privatization, in changing the ingrained mentality of the staff. The thought processes implied by years of experience in non-profit, governmental entities is anathema to the functions of the newly restructured and privatized players in the sector. This pro-

blem, though hidden inside these entities, represents a very serious threat to successful reforms based on market models.

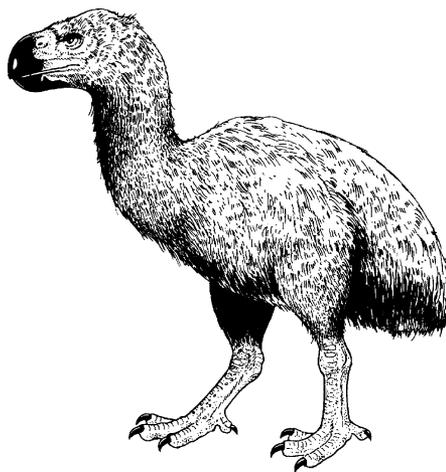
The staff of the newly privatized companies is mostly comprised of former state-owned utility employees rehired by the new management for their technical expertise and local knowledge. However, they also have a particular and entrenched mindset. They come from an environment where there is no bottom line or profit pressure since the state was always there to bail their companies out when revenues fell short. They are accustomed to a management decision process that is influenced more by political than economic or profit considerations. They are also used to a governmental budgetary process, i.e., negotiating an annual budget level with their government overseers in competition with other agencies for a share of a limited national budget. Finally, they come from an environment where efficiency in economic terms is largely irrelevant and where shareholder wealth has no meaning since their "owners" always had access to the treasury and a political rather than financial bottom line.

If new entities in a reform based on market principles are going to be financially viable, they require staff that is able to make decisions based on what is best for the bottom line. The staff must understand the importance of the utility being financeable, and the relationship between capital attraction and the opportunity to

earn an adequate return. Staff must understand that in contrast to a budgetary process, obtaining the funds necessary to run their companies is a process of tariff adjustments and it involves making a credible case to the regulator for the costs and necessary return on investment. While the staff must be sensitive to the realities of their social environments, they need to understand that their primary responsibility is to their new shareholders: i.e., institutional or individual private investors with an expectation for being adequately compensated for the risks to their investments. They also need to understand that a properly functioning power sector is a key contributor to raising standards of living and that, in turn, requires maintaining the ability of their employers to raise capital by making a reasonable profit. In sum, the reform needs a transformation in employee mindset from a government mentality to one that thinks in terms of maximizing profits.

But transformations in mindset are at the very best extraordinarily difficult, especially for people that have had significant careers in the sector prior to reform. One cannot just assume that the transformation will take place. Moreover, it is not an employee's sole responsibility. It is incumbent upon the international investors to transfer such "know-how" to the staff where they decide to invest their funds. It is clearly in their self-interest. Too often, in the name of fostering

local talent or assuaging domestic political resistance, international companies fail to provide clear leadership. One finds very few expatriates⁹ on the ground at the managerial and operational level transferring the concepts of profit-oriented enterprises and making sure that locals internalize them. Without a real transfer of the why and how of markets, profits, and



financeability in the context of a privately owned entity, it is unlikely that the local staff, steeped in years of experience in non-profit entities, will become profit maximizers.

Changing the company logo does not guarantee success. Behaviors are not automatically changed with reforms. Successful market-oriented reforms require more than an external environment of a stable regulatory framework, clear rules of the game, and an opportunity to earn an adequate return. Reform efforts also need to consider and control the internal environment: the mentality of its personnel. Absent a switch in the mindset of the staff, reform efforts will be lost.

IV. Observations and Conclusions

Our observations can be summarized in four overriding points:

- *Reform of a power sector is a highly complex technical activity in a sector of very high political interest and in the midst of strong public antagonisms, and involves the transformation of bureaucratic agencies with long histories of political interference.*
- *Reform has often been directed by parties that are not technicians or specialists and that have agendas that go well beyond reform of the sector and only limited interest in economic efficiency or improving sector performance.*
- *Reform is often pursued by governments that lack a clear understanding of the models, their requirements, and the implications for the necessary and proper role of government.*
- *Not surprisingly, the attempts mostly failed.*

These lead us to the following conclusions regarding the requirements for a successful reform (which may be beyond the realistic capabilities of most parties):

- *Governments must be understanding and carry out their obligations under whatever reform model is adopted,*
- *Funding agencies must rely on technical experts rather than agency imperatives or preconceptions in setting their prescriptions for reform,*

- Ground realities must be incorporated into the selection and implementation of a reform model, and
- A transition plan must be developed that will allow the sector to move from its current state to the reformed end-state without alienating customers or undermining the reform. ■

Endnotes:

1. The nature and beneficiaries of the subsidies and cross-subsidies are not uniform across economies. In India, the cross-subsidies flow from industry to domestic and agricultural customers, while in Brazil they flow from domestic, commercial, and small industrial classes to large industrial and especially exporting industries.

2. *Bluefield Waterworks & Improvement Co. v. Public Service Commission*, 262 U.S. 679, at 692–695.

3. And, of course, these machinations were never financially sustainable since at the core they were designed to hide an inability to fund the sector properly. Reform simply put a spotlight on the economic truth that the sectors were financed through decapitalization that evidenced itself in the degraded state of physical assets and reliability of service.

4. *Ready, Steady...Whoops*, Survey: Telecommunications, *ECONOMIST*, Sept. 13, 1997, at 6.

5. One long-time Indian expert has also speculated that local investors may have thought “that they would be able to earn profits by manipulating data and bribing the politicians, bureaucrats, and regulators, rather than by improving the system and

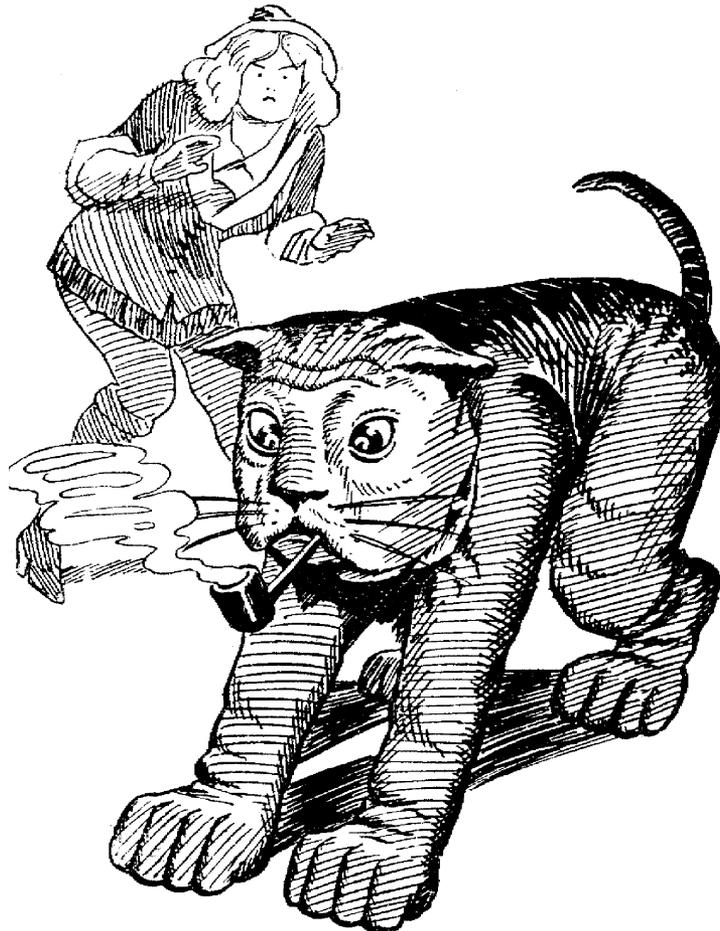
bringing in efficiency in the operations.”

6. John M. Litwack, *Legality and Market Reform in Soviet-Type Economies*, *J. ECON. PERSPECTIVES*, Vol. 4, Fall 1991, at 77–78.

7. In Brazil, the regulator did not reduce tariffs in the recently completed process of tariff revision but set them at very low levels and implemented such an aggressive efficiency factor that the long-term financeability of many distribution companies is questionable.

8. In retrospect, the authors acknowledge their own culpability in this regard.

9. In its first years in Brazil, the company that controls one of the largest distribution businesses in Latin America had no personnel from the parent company in the country.



Ground realities must be incorporated into the selection and implementation of a reform model