Key Lessons on Electricity Regulation: What Regulators have Taught Us

By Sanford V. Berg, Mark A. Jamison, and Janice Hauge[1]

I thought that regulators in my country had done a superior job addressing regulatory issues. Seeing so many other countries solving problems in so many creative ways showed me that we could all learn from each other.

--- Regulator from OECD country

When you gather utility regulators from 45 different countries together for two weeks of intensive discussion on regulatory issues, everyone learns a lot, including teachers. This is our experience conducting the *PURC/World Bank International Training Program on Utility Regulation and Strategy*. This biannual training program, which began in January 1997, has brought together over 300 regulators from 77 countries (we average 45 countries per program) to ensure that the current wave of utility market reforms are successful.

The World Bank and the University of Florida's Public Utility Research Center (PURC) started this program to provide utility regulators with basic tools and cases. While we have had success in this, our greatest success has been in learning something ourselves. Program participants and we have learned together that while each country's situation and problems are unique, there is a common set of principles and lessons that each country can draw upon to fashion its own policies.

Below we describe four key lessons that have emerged from the program. We have disguised the underlying questions to hide the identity of the questioner.

Lesson 1. Decide the market model before privatizing.

My country has a small window of opportunity to privatize the moribund, publicly owned electric monopoly. The current arrangement has created unsustainable financial deficits and many citizens are without electricity. We must act quickly because labor union leaders are stirring up the workers and customers who have subsidies. Unfortunately, there are many delays in developing the restructuring plan. Can we privatize now and worry about the restructuring plan and regulatory rules later?

Countries have greater success if they decide the market model and the regulatory rules before privatization. Investors worry about uncertainty, especially public policy uncertainty. Because market reform depends upon economic incentives to improve efficiency and expand capacity, the reform must provide an environment in which managers can plan and investors can earn profits commensurate with their risk. If the government has not decided the industry structure, entry and pricing rules, and efficiency rewards, then managers cannot plan the business and investors cannot value the privatization.

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Lesson 2. Balance commitment and flexibility.

When we started our price cap regime two years ago, we committed to price adjustments based on inflation and expected productivity advance. Since then, drought has increased electricity demand and the currency crisis has decreased the value of my country's currency. Customers see the greater demand creating higher profits, but the company's foreign owner has seen profits plunge in real terms. The company wants higher prices to make up for the currency losses. Do I listen to the customers or the company?

Regulators should listen to both, but it may be best to agree with neither. Efficient businesses are necessary for reaching the goal of service at affordable prices. If regulators keep their commitments to both businesses and customers, then businesses will be more efficient because their business decisions have a greater affect on profits than if the regulator keeps changing the rules. However, there are times when changed circumstances justify revisiting the regulatory rules.

Recently at our program, the World Bank's Warrick Smith explained how short-term political pressures collide with investors' needs for certainty. Energy tends to be political when customers demand lower prices. But energy investments are long term and immobile. Investors require higher returns and shorter payback periods if they believe regulators will bend to political pressure. Higher returns mean higher prices, so customers do NOT get the very thing they demand.

Likewise, businesses want compensation when profits become low. When this happens, the regulator must decide whether the business can improve profitability on its own or at least weather the storm, whether the low returns constitute acceptable business risk, or whether the unanticipated developments threaten service. In the latter case, the regulator should be flexible and make allowances to keep services and investments flowing.

Lesson 3. Establish independence, transparency, legitimacy, and credibility.

Our national elections are in three weeks. Our recently formed regulatory agency must make a decision on a company-proposed price increase in one week. The Minister of Energy has suggested privately that we not allow the increase. He is concerned that his party will lose the election if energy prices increase and implied that he will overrule us if prices rise. The evidence indicates that the company has invested appropriately and that the price increase is justified. What should we do?

To be effective, regulators must establish independence, transparent processes, legitimacy, and credibility. Independence means that regulators stay at arm's length from companies, politics, and customers. Clear statutory authority for the regulator is necessary for true independence, but regulators can help themselves by thinking independently and strategically.

Transparency means that regulators operate in the open, including open decision making, and publication of decisions and reasons for decisions. Transparency safeguards the regulator's independence.

If transparency and independence from the companies are absent, customers will conclude that the regulator is not legitimate -- that the regulator is captured and simply serving the company's

interests. By the same token, if investors believe that politics and/or customers have captured the regulator, investors will not view the regulator as being credible and will seek to maximize short-term gains rather than invest for the long term.

Lesson 4. Implement incentive schemes that promote efficiency and introduce competition where feasible.

Four years ago, my regulatory agency established strong incentives for utilities to decrease costs. Recently, company profits have soared and executive salaries have risen three times faster than workers' wages. Newspapers have begun calling for an "excess profits tax," and key legislators have introduced legislation that would do just that. The utility executives say the profits and salaries are deserved because they worked hard and took risks. The Prime Minister has asked for my advice. What should I tell him?

If the government takes back rewards when companies succeed, the good incentives of the regulatory scheme go away. All regulations provide incentives. Some encourage efficiency and innovation. Others encourage political lobbying and comfortable jobs for management. Because businesses respond to these incentives, policy makers should be cognizant of the incentives they are setting up.

There are two basic regulatory schemes for controlling prices -- rate of return regulation and price caps -- and there are many ways of combining them. With rate of return regulation, regulators base price levels on what the company spends to provide service. Because regulators generally do not know how efficient the company could be, pure rate of return regulation provides little incentive for the company to be efficient.

With price cap regulation, regulators base price levels on information (such as inflation and productivity indices) that the company cannot control. In pure price cap regulation, the company has high incentives to be efficient and bears the risks of its own mistakes. Experience has shown that this system may harm service quality if customers are unable to exercise choices and decrease demand when quality is low.

Because regulation is a substitute for competition, it is not surprising that many countries introduce competition where feasible to reduce the need for regulation. Research has shown that this competition and deregulation generally reduce costs and improve services.

Concluding Observations

Policy makers should understand the broad economic and technological forces affecting energy. As Figure 1 shows, the interrelations between these forces and regulatory policy are complex. The boxes on the left show the forces regulators should consider. Industry conditions (e.g., technology), general economic conditions (e.g., inflation and income), stakeholder experiences (e.g., customers' expectations and businesses' views of government), and institutional conditions (e.g., court systems) determine which policies will achieve the desired industry performance. The dashed arrows show that these factors also directly affect industry performance. Then there is a feedback loop where industry performance provides learning for stakeholders.

The four lessons considered are only a subset of the numerous lessons that our program attendees and we are learning. Nations that ignore these lessons do so at their peril. A more complete set of lessons can be found at http://www.cba.ufl.edu/purc/training/training.htm.

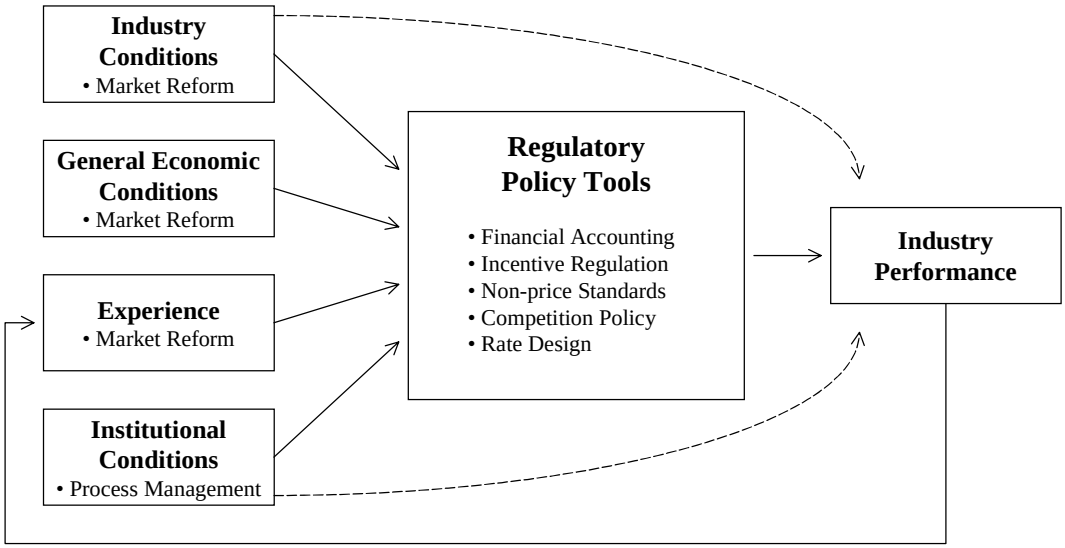

Figure 1. Country Context for Applying Regulatory Tools