Developments in Best-Practice Regulation: Principles, Processes, and Performance

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The art of regulation involves establishing rules that allocate value to consumers and suppliers in such a way as to maintain incentives for the firm to create value, while promoting political legitimacy in the eyes of consumers and other stakeholders.

This article provides an overview of developments in best-practice regulation. It identifies issues that investors and executives consider when determining infrastructure activities in emerging markets. In an earlier article in this journal (Berg, 1998), the author focused on two basic regulatory design issues: the behaviors that should be regulated and mechanisms for developing and enforcing rules. Both fall under the category of *regulatory incentives*. Here, the emphasis is on *regulatory governance*: how new regulatory agencies are insulated from ongoing political pressures, while utilizing processes that promote participation, transparency, and predictability. Standard & Poor's and other ratings agencies are beginning to evaluate the regulatory environments facing electricity firms operating around the world. Such information becomes an important determinant of risk factors to be applied to each company's expected net cash flows. Thus, each country needs to resolve issues related to the design and operation of regulatory institutions. Principles and processes matter because potential investors are looking for signs of regulatory independence and signals that policies are based on a comprehensive analytical framework rather than on the whims of individuals.

The Public Utility Research Center (PURC) has worked on this topic on an intensive and regular basis. In collaboration with the World Bank, we have conducted seven international training programs on Utility Regulation and Strategy over the past three years. Over 600 regulators and managers from 90 countries have come to Florida to participate in the two-week course. We have learned a great deal about the principles of regulation and about the regulatory process. Although I cannot report that we have the *definitive* classification scheme that allows us to rank all regulatory commissions on the basis of well-defined (and quantifiable) criteria – and, in fact there is no "ideal" commission, since organizational design depends on the institutional context (Levy and Spiller, 1994) – I nevertheless will propose a criterion from an economist's perspective.

Recently, Australia's Utility Regulators Forum (1999) generated a Discussion Paper of "Best Practice Utility Regulation" prepared as part of a program to promote the exchange of ideas regarding regulatory activities. The authors identified Nine *best practice principles*:

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1. Communication (information to stakeholders on a timely and accessible basis)
2. Consultation (participation of stakeholders in meetings)
3. Consistency (across market participants and over time)
4. Predictability (a reputation that facilitates planning by suppliers and customers)
5. Flexibility (by using appropriate instruments in response to changing conditions)
6. Independence (autonomy—free from undue political influence)
7. Effectiveness and Efficiency (cost-effectiveness emphasized in data collection and policies)
8. Accountability (clearly defined processes and rationales for decisions, with appeals)
9. Transparency (openness of the process)

These principles were then embodied in *best practice processes*, as problems are identified and addressed in a systematic manner.[2] Finally, the third component emphasized in the discussion paper related to *best-practice organization*: the role, resources, and structure of the agency. The staff expertise for making decisions and clarity of responsibilities (within and among government entities) were important aspects of this third component.

The government document represents a good overview of the institutional design and regulatory process issues. Lawmakers must address them when establishing or evaluating a regulatory agency. However, the framework needs to be extended to include *sector performance* as the *ultimate* indicator of regulatory performance. If good regulation only involves filling out a checklist of agency qualities, then organizations with law-abiding well-intentioned people ought to be able to score high on indicators reflecting each of the nine principles. In addition, the regulatory process can reflect those principles. Yet if firms in the sector are not performing in a manner that matches standards set by similar firms in other countries, then how can that regulation be "best practice"? Somehow, regulatory outcomes must be factored into the evaluation, and both relative and absolute levels of sector performance can be regarded as outcomes of interest to customers and investors. If consumers are being denied valued new services available to those in other countries, then the principles and processes will not be adequate indicators of performance.

Fortunately, the conflict is more apparent than real. These regulatory inputs (principles, processes, and organization) will tend to promote investments and managerial activities that enhance actual industry performance. However, if the substance of regulatory strategies and the implementation of associated policies are inconsistent with strong sector performance, then the benchmarking exercise needs to recognize this policy failure.
For simplicity, let performance consist of five elements:

1. Productivity advance (reflecting cost containment and adoption of new technologies)
2. New service introductions

[2] Stern and Holder (1999) use a similar framework for appraising regulatory systems. They emphasize three principles that relate to institutional design (the formal elements of regulation): (1) Clarity of Roles and Objectives; (2) Autonomy; and (3) Accountability. They identify three areas related to regulatory processes (informal accountability): (4) Participation; (5) Transparency; and (6) Predictability. The six criteria are used to rate agencies in six Asian nations.

3. Returns to investors commensurate with the risks they bear
4. Prices that reflect minimum incremental costs
5. Expansion of basic services to particular customer groups

Countries with high performance in energy, water, and telecommunications sectors will generally also have good regulatory performance—as defined in the Regulators Forum document or the NERA study by Stern and Holder. The associated agencies will have met the checklist of principles. In addition, they will tend to have processes that promote credibility with investors and legitimacy with consumers. Finally, successful agencies have organizational designs that enhance efficiency in the sector and the economy as a whole.

Thus, a key indicator of regulatory performance is sector performance. The number of studies, cases decided, and rules promulgated are regulatory *inputs*. However, the fundamental regulatory output is industry performance. Benchmarking looks at both inputs and outputs. Of course, sector performance is also dependent on general economic conditions and institutional features of the economy (including an independent judiciary and political restraint). Nevertheless, if the study of "best practice" focuses on principles and procedures rather than market outcomes, then we will have a very limited perspective on what really matters.

I. Regulatory Governance and Performance

The task of assessing the merits of specific infrastructure regulatory policies is complicated by the intricate relationships among key variables. Some of these relationships are depicted in **Figure 1**. The two boxes to the far left represent some of the factors that influence a government's choice of infrastructure policy. *Experience* refers to local, national, and international experience with infrastructure regulatory policies. Industry performance under regulatory regimes in different nations provides lessons that affect agency design and incentive policies. The *Institutional Conditions* box in depicts how other factors influence the design of regulatory agencies. These factors include the strength and independence of a country's judicial system, the nature and stability of the country's political system, the autonomy of regulatory officials, resources at their disposal, and enforcement of property rights and laws that pertain to infrastructure development policy. Levy and Spiller (1994; 1996) document how these factors affect the ability of regulators to maintain some independence from political pressures and to make credible long-term commitments to private investors.[3]

The solid arrows in Figure 1 depict the fact that these (and other) factors affect directly the kind of *Regulatory Governance* system that will be required. The clarity of an agency's roles, the degree of its autonomy, and techniques for ensuring accountability represent the foundation elements of the regulatory system. Similarly, a regulatory process that emphasizes stakeholder participation, transparency, and predictability will be more credible than one without these features. However, institutional design is just one step in the policy process. The actual *Regulatory Incentives* developed and implemented by the agency will affect the behavior and performance of regulated entities. In particular, we know that competitive pressures can be

[3] Begara, Henisz, and Spillar (1998) find that institutions explain electric utility investment across nations.

powerful determinants of industry performance, so regulatory attitudes towards entry will have a great impact on performance.

Note that many of the same factors that influence policy choice will also affect observed industry performance directly. For instance, realized production costs will generally be affected both by the prevailing production technology and by perceptions of the government's tolerance for substantial earnings (as reflected in the use of price caps vs. rate of return). An expectation that the agency will try to "claw back" high returns (when rates are reset) dilutes incentives for cost containment. Other relevant arrows have been omitted from Figure 1 in order to simplify the diagram.[4]

On the far right, the traditional industrial organization model depicts the chain of causation from basic conditions to industry performance. *Industry Conditions* include those factors that affect industry demand (e.g., population, income, and education) and those that affect industry supply (e.g., production technologies, operating practices, and factor prices). Basic conditions facing an industry determine the feasible number of suppliers in an industry. In turn, industry conditions are influenced by *General Economic Conditions* and by the nature of *Input Markets* (both depicted in Figure 1). The former include macroeconomic features of a nation: employment, savings, and inflation rates, as well as the strength, stability, and diversity of its economy, its balance of trade, and the strength and stability of its capital markets. These, in turn, drive the input markets that determine the cost of key factors of production. Clearly a firm's cash flows will be driven by national economic growth. Although this factor is beyond the control of regulators, its role needs to be recognized by stakeholders.

Finally, *International Perceptions* (of political stability, institutional support, and credibility of the regulatory process) affect the availability of external capital for private participation in infrastructure projects. Country political risk indices and ratings by financial organizations attempt to capture the risks inherent in different national settings.

Thus, the right side of the figure shows how regulatory policies (incentives) affect *Market Structure*, constrain the *Behavior* of service providers, and affect industry *Performance*. For example, regulatory policies affect entry conditions, transmission pricing, the rate of new service connections, and the degree of service unbundling. For example, there is no doubt that traditional regulation in the U.S. influenced industry structure and corporate behavior. Regulatory rules defined markets, constrained entry, and facilitated vertical integration. Thus, cost-based rate of return on rate base regulation (ROR) was designed to enable the firm to earn a fair return on its investment while protecting customers from monopoly prices. In addition, complex cost allocation procedures resulted in the sharing of capacity costs across customer groups, over markets for different services, and between geographic areas. Postage stamp (uniform) pricing was sometimes utilized, despite cost differences for serving different locations and customer groups. However, the old system is breaking down. Innovations and new perceptions regarding the strengths and limitations of government ownership have lead nations to restructure the electricity sector and seek private participation in the provision of utility services.

[4] See Berg (1997) for an earlier version of the Figure. The more recent *Electricity Journal* paper (Berg, 1998) presented a simplified version of this framework (Berg, 1998).

Figure 1 attempts to capture the key features of the environment that influence the creation of new regulatory institutions and the policy incentives they promulgate.

Balancing the Interests of Key Stakeholders

The emphasis on industry performance is not meant to diminish the importance of principles and process. Clearly, both are necessary—but not sufficient—if regulation is to be judged "best practice." Procedures matter because of the role played by a regulatory agency in mediating among the interests of various stakeholder groups. The "classical" characterization of "independent" regulation has the agency in the middle of a triangle, balancing the interests of government, suppliers, and customers (see **Figure 2**). Recognizing that institutional change requires legal mandates, the Government is often placed at the top vertex of the triangle. Government could be identified more broadly as politicians and elected officials. Or it might be defined more narrowly as a "Ministry". However, those out of power could be in power in the future, so the agency is also mediating the interests of individuals whose time horizons extend to the next general election and others who influence public policy only indirectly. Furthermore, in federal systems, the agency might have primary responsibility for one jurisdiction, so that the interests of other agencies must be taken into account. The simple term "Government" in the balancing act begins to resemble a much more complex set of political forces.

The triangle's vertex labeled "Suppliers" is complex for a number of reasons. So long as the entity is no longer a vertically integrated firm, an entire production chain must be considered. Market design issues are at the forefront of regulatory challenges. Incumbent firms (privately or publically-owned), recent entrants, and potential entrants all have interests in the "rules of the game" established by the agency. Access regimes, types of incentive systems (price cap vs. rate of return), and review processes all affect the cash flows for these market participants. Behind these firms are sets of equity owners, debt-holders, and managers—all of whom can have different interests regarding risks they are willing to experience and information disclosure rules adopted by the agency.

No less complicated is the interest group identified by "Customers." The number of customer categories is endless: industrial, commercial or residential; urban or rural (high cost areas); large or small demanders; high income or low income; served and unserved communities; technologically sophisticated and unsophisticated; today's customers versus all these groups five years from now. The balancing act *within* a category begins to look even more problematic than *between* the three archetypal groups.

So the classical characterization of the regulator as "merely" balancing the interests of three groups actually resembles a troop of jugglers with thirty different objects flying through the air at various speeds. As the number of policy objectives increase, the number of potential suppliers expands, and diverse needs of customers become recognized, the task of regulation becomes more complicated. The lesson for regulation is that a "light-handed" approach is best: forbearance when available (depending on the law), competition where feasible (depending on production technologies and market size), and all-party settlements (alternative dispute resolution) where possible.

So in principle, the agency balances all these interests in a way that promotes legitimacy to customers, credibility for investors and efficiency for the general economy—all the while recognizing that the three objectives involve many sub-components that complicate the regulatory process. When the impersonal market can be used to create and allocate value, the advantage to leaving the outcomes up to market forces is that the rent-seeking activity of the various market participants is channeled away from influencing the regulatory process. In the case of many public policies, the benefits are highly concentrated, and the costs dispersed over a number of groups. For groups with high per capita potential benefits, political lobbying activity will be intense. This pattern means that some public intervention is likely to result in the aggregate costs being greater than the benefits (for example, the protection of special interests).

The next two sections focus on two key characteristics of regulation that can partially counter the likelihood of capture: transparency/participation and consultative processes that bring all the parties to the table.

Transparency and Participation

Transparency implies openness to the views of different stakeholder groups. Participation by stakeholders is one way regulators can be held accountable for their actions. How are agencies rewarded or punished? First, budgets can be expanded or cut, based on the perceived performance of the agency (and the sectors it regulates). Second, recognition can be given to key personnel who have a significant impact on agency policy implementation and on sector performance. Third, legislative and executive oversight can serve as a vehicle for monitoring agency activities. In addition, McCubins and Schwartz (1984) emphasize the role of interest groups as providing additional information to politicians regarding agency activities: such groups trigger “fire alarms” if the bureaucracy strays from its legislative mandate.

In the case of regulated industries, incumbent suppliers can obtain information rents because they have more information on demand patterns and cost structures. Other interest groups, including potential entrants, have an interest in bringing out some of that information. Policy-makers will find it helpful to have administrative processes that facilitate the development of more comprehensive information. Thus, communication and consultation are important principles for effective regulation.

Of course, various stakeholders (with interests that diverge from the incumbent) will tend to present biased information. However, policy makers have the advantage of eliciting a diverse set of perspectives in the context of open proceedings. Furthermore, factual information can be challenged, so the various participants will tend to build sound (as opposed to “biased” cases) for their positions. Thus, administrative procedures can structure participation so as to produce policies based on more comprehensive information.

Note that unless formal and informal processes are in alignment, transparency can be threatened. For example, in the Argentina natural gas sector, the law requires the regulatory agency, Enargas, to document the sources of cost-savings implicit in the X-factor applied to distribution

companies in a price control review. This requirement has been interpreted as requiring the agency to develop cost-containment programs that the company could adopt to achieve these savings. In the recent price review, the agency also examined total factor productivity numbers to gauge the feasibility of plans. The key point here is that the formal process (agency identification of firm cost-containment programs—as required by law) might diverge from the actual process used to estimate X.

It is surely problematic to have regulators identifying specific plans for cost containment (an improved meter reading program, just-in-time inventory initiatives, etc.) So in practice, the creation of recommended projects becomes a *formal* mechanism for ratifying a more realistic *informal* process for quantifying X. It seems that such a "shadow" process increases regulatory discretion and reduces transparency. However, if the legal framework makes such an approach necessary, this "second best" approach is better than the alternative—in this case, micro-management.

Consultation and Alternative Dispute Resolution

Stern and Holder identify participation as one of their six criteria for sound regulation. They recognize that both communication and consultation are necessary if stakeholders are to be informed of rules and allowed to contribute to regulatory discussions. Broad policy will have been established in legislation, but the agency will still have to interpret and apply the law in the context of the facts. Identifying that "reality" becomes a task for market participants. As the number (and diversity) of market participants expands, the use of the traditional adversarial hearing process in the U.S. is being supplemented (if not replaced) by alternative dispute resolution (ADR) procedures.

It is said that "Settlements make winners—Hearings make losers." Nevertheless, the dispute resolution process matters. Three approaches from Canada illustrate the strengths and limitations of various approaches to ADR (Grant, 1999). First, consider the Ontario Energy Board. Utilities provide a detailed application to the Board to initiate negotiations. Although Board staff members attend discussions, they are to provide general information—not take positions in the negotiations. Once a settlement is reached, the Board reviews the agreements on an issue-by-issue basis, making changes. The rationale for such intervention is that the parties might not reach an agreement in the public interest. However, individual issue review reduces the likelihood that stakeholders will make trade-offs (compromises) that yield win-win outcomes, since participants realize that the Board can overturn portions of the agreement. The result is that few actual settlements are achieved.

The case of the National Energy Board is quite different. No application is placed before the Board. Staff members do not participate in the meetings (so they are not in much of a position to evaluate the final settlement). Thus, the Board either approves or rejects the settlement document. While numerous settlements between shippers and pipelines have emerged from these negotiations (involving pricing flexibility and mutually beneficial incentives), the system is not at all transparent to the general public.

Finally, consider the British Columbia Utilities Commission. The utility submits a full application, outlining the issues to be resolved. Workshops and information requests promote transparency, with commission staff actively participating in the negotiations. Nearly 100% of the settlement processes have been successful (and approved by the Commission)—reducing the cost of regulation and speeding up what can be a cumbersome process. Grant (1999) maintains that the B.C. system has stimulated utilities to work closely with customers, yielding improved performance for suppliers and customers. On the surface, the last system seems to be closer to "best practice," but additional analysis would be needed for a definitive conclusion. In particular, do agency staff operate in a heavy-handed manner in this attempt at "light-handed" regulation?

Concluding Observations

Since regulatory agencies are basically setting constraints on corporate behavior, those implementing public policy need to understand what is driving decisions in the marketplace. A brief review of market processes can help us identify the challenges facing regulators who are trying to simulate competitive outcomes.

How do firms create value? First, they create value by lowering costs. Valuable resources are freed up and used in other sectors of the economy. Second, since value is in the eyes of the consumer, value is created when product quality improvements or entirely new products better meet the needs of consumers. In competitive markets, firms creating value are able to capture profits from their risk-taking activity. Economic profits represent returns to equity investors who put their capital at risk. Normal returns arise from normal performance. Above-normal returns arise from superior performance (reflecting best-practice in operational effectiveness and selection of a strategy that meets the preferences of consumers and builds on the capabilities of the firm).

There are clear links between economic principles and business decision-making. Investors respond to signals provided by the securities markets and firms enter and exit markets based on profit expectations. Similarly, incentives established by regulators (including entry policies and access regulation) have significant impacts on what firms do and how they do it. Unless agencies understand the processes underlying decisions in an unregulated setting, they will be unable to do a good job of meeting public policy objectives through appropriate selection and use of policy instruments. In particular, by encouraging firms to create value (via cost-containment and the introduction of valued new services) regulators can enhance industry performance. However, if poor incentives are established, value can be destroyed, as investors withdraw capital from the industry or costs drift upward in response to cost-of-service regulation. The art of regulation involves establishing rules that allocate value to consumers and suppliers in such a way as to maintain incentives for the firm to create value, while promoting political legitimacy in the eyes of consumers and other stakeholders.

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Figure 1. Regulatory Governance, Incentives and Performance

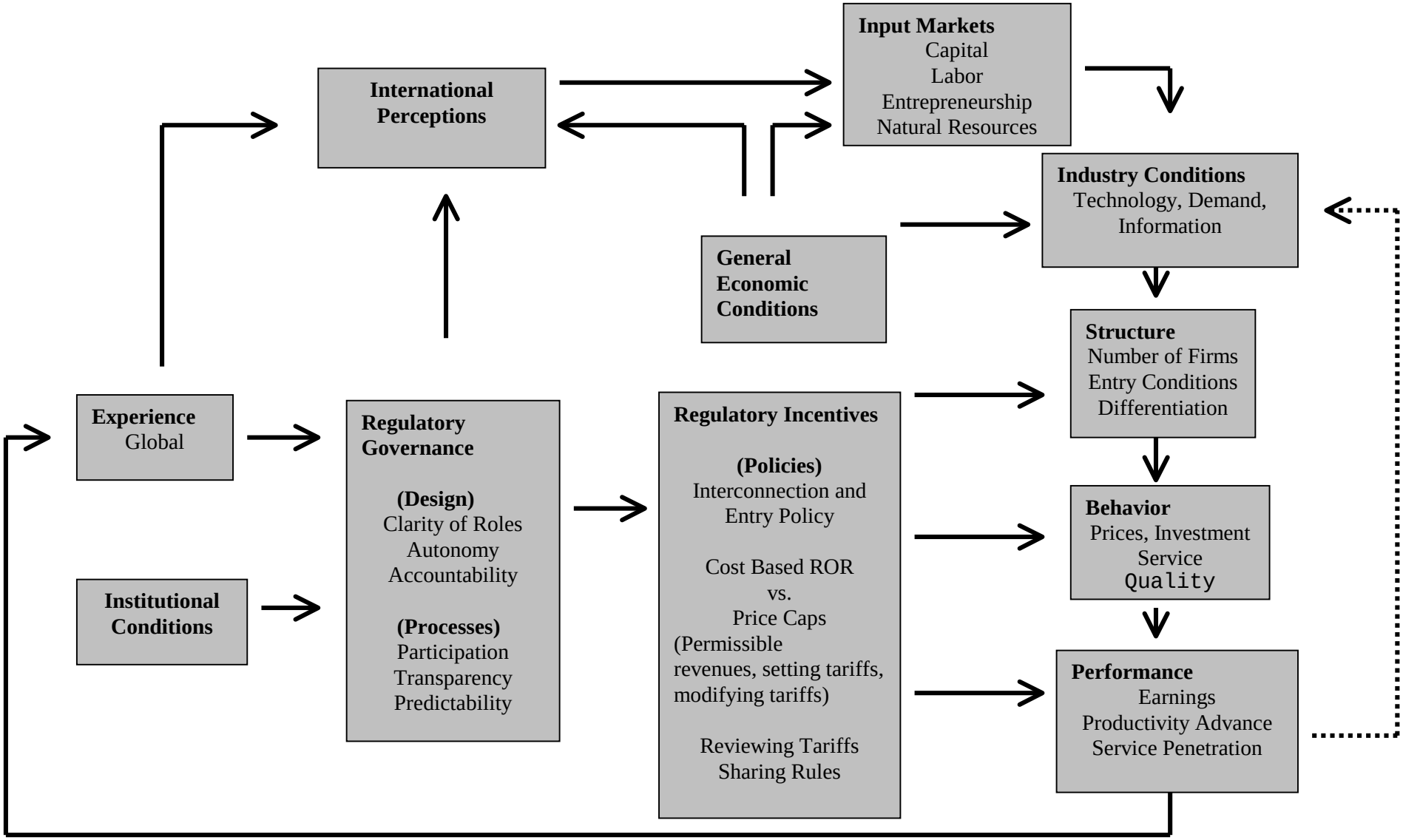

Figure 2. Classical Independent Regulation:
"Balancing" Interests