Single-Sector Versus Multi-Sector Regulatory Framework: Advantages & Disadvantages

Overview

Multi-sector regulation is understood to be the functioning of a single regulatory agency that has responsibility for several different utility sectors such as telecom (ICT), energy, water, and sanitation with similar economic and legal characteristics. We will discuss the advantages and disadvantages of the multi-sector approach, and provide some lessons learned and best practices for infrastructure regulation.[1]

In selecting the appropriate institutional structure, countries have various design options available, including economy-wide, infrastructure-wide, industry-wide, communication-wide or purely sector-focused institutions. The choice depends in part on the extent to which the chosen sector, e.g., ICT, energy, water, transport, is similar to (or different from) other sectors of the economy in a particular country, on the availability of suitably qualified staff, and on the state of reform and infrastructure development of each utility sector.

As Samarajiva & Henten[2] write, the case for multi-sector regulation is driven not by technological convergence, but by the potential efficiencies in regulating issues that are common to several utility sectors, i.e., the sharing of infrastructure and skilled people. It is also driven by the belief that the most effective design for the new regulatory structure is a shared one.

MSRAs A Complex Question

The problem of weak institutions, whether driven by lack of capacity (resources, competencies, information) or lack of commitment, may affect choices between creating a multi-sector regulatory agency and multiple single-sector agencies. In certain situations, having a multi-sector agency might provide a partial remedy to the problems of weak institutions. Schwartz and Satola[3] list advantages and disadvantages of a multi-sector approach (Annex 1). A regulatory agency may experience learning by doing and leverage its information gathering capabilities in one sector to enhance data gathering in another sector. Furthermore, since a multi-sector regulator regulates more operators than a single-sector regulator, the regulator's ability to establish its credibility with investors, and establish practices for improving credibility with consumers is enhanced.[4] But in other situations the choice of a multi-sector regulator might exacerbate the problems of weak institutions.

One benefit is that a single-sector agency that has been unable to resolve problems of data collection may learn some new approaches from a sister single-sector agency that, because it is a separate agency, has been able to try other approaches and found greater success.

Laffont and Tirole[5] list several considerations for thinking about single-sector versus multi-sector regulators. The first consideration is that of benchmarking within the country; namely, that if there are multiple agencies it is easier to compare performance. Benchmarking would be problematic when

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[1] PPIAF-financed study (2008) undertaken by the consulting firm Hellerstein & Associates and the Public Utility Research Center (PURC) – Review of Multi-Sector Regulatory Agency in 5 Sub-Saharan African Countries (Cape Verde, The Gambia, Guinea-Bissau, Niger, and Senegal). Authors include, Judith Hellerstein, Sonia Jorge, Mark Jamison, Sandy Berg, and Jean-Pierre Chamoux.

[2] Samarajiva, Henten, and Melody, Designing Next Generation Telecom Regulation: ICT Convergence Or Multisector Utility?, www.regulateonline.org.

[3] Schwartz, Tim and Satola. 2000. "Telecommunications legislation in transitional and developing economies", World Bank Technical Paper no. 489

[4] Lyon, Thomas P. and Jing Li. 2003. "Regulatory Uncertainty and Regulatory Scope." Working Paper, Kelley School of Business, Indiana University, Bloomington, IN.

[5] Laffont, Jean-Jacques and Tirole, Jean. *Competition in Telecommunications*. Cambridge, Mass.: The MIT Press, 2000, pp. 274-275

agencies are in differing phases of development, so this may be of limited value in LDCs. Furthermore, it is probably more relevant to benchmark a water regulator in one country against water regulators in other countries rather than against a telecom regulator from the same country. This would seem to imply that for benchmarking it may be more important to imitate countries than to optimize within the country.

The increasing importance of rights of way and conduit sharing is an important topic among all utility regulators. The question some scholars are debating is whether there is enough common use of these conduits and rights of way that it constitutes a major portion of the supply chain, resulting in a convergence of the energy, water, and ICT sectors to create what some economists are calling a separate–infrastructure sector. These issues do not, by themselves, constitute a case for multi-sector regulation. Just because the sector shares the common use of ROW and other inputs does not mean that each of these sectors should be regulated by the same entity. However, they do make a strong case for increased cooperation and coordination among infrastructure and finance regulators and represents an alternative way to ensure cost-effective investments in network capacity.

Laffont and Tirole's second consideration is that single-sector regulators may be better able to specialize and develop industry-specific expertise. This could apply regardless of the stage of development of a regulatory agency. Laffont and Tirole's third consideration is that having specialized regulatory agencies may inhibit industry capture. Their point here applies to having multiple agencies regulating a single industry (for example, having separate agencies responsible for pricing, and network expansion targets), rather than a single regulator per sector. However, their point does raise the issue of political capture. If there is political capture of multiple agencies overseeing a single sector, then the diffusion of responsibilities loses its effect at least with respect to limiting political opportunism.[6]

From Single-Sector to Multi-Sector Regulation: A Dynamic Approach

Schwartz and Satola list several strategies to develop a multi-sector regulatory agency. Choosing early on the MSRA model provides investors with a clearer view from the outset of what the regulatory framework will be and a greater sense of regulatory certainty and security. It is also probably the least complex option to implement from a legal standpoint, requiring one law to establish the MSRA, and sector-specific legislations applicable to each such sector. This strategy, however, requires the greatest effort in terms of obtaining consensus from relevant ministries who are loathe giving up any power and could thereby delay the liberalization process. In fact, it is precisely because different ministries exist for different sectors that many see the MSRA approach to regulation as a "failed proposal."

A second approach suggested by Schwartz and Satola is to use an existing regulatory body to serve as the core for the MSRA or set up a completely new and independent regulatory agency and then gradually expand the mandate of the sector-specific regulator to cover additional new sectors as and when the decision is taken to liberalize and privatize such new sectors. This agency would act as an anchor tenant bringing in the other utilities under the same roof later on as these sectors are liberalized and/or privatized.

This second strategy could provide a practical compromise, providing the core for an MSRA in the future. It would, however, need to be set up to ensure that the enabling legislation does not contain too many "sector-specific" characteristics that might prevent its evolution into an MSRA.

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[6]Henisz, Witold J., and Bennet A. Zelner. 2004. "The Political Economy of Private Electricity Provision in Southeast Asia," Reginald H. Jones Center, The Wharton School, University of Pennsylvania.

The next option that Schwartz and Satola suggest is to create a number of sector-specific independent regulators and then merge them together to form an MSRA. However existing sector specific regulators will likely resist the merger of their sector-specific regulator with other sector-specific regulators. Moreover, the advantages which flow from an MSRA are likely to be lost during the early stages in the liberalization and privatization of the relevant sectors (i.e., prior to the merger of the sector-specific regulatory bodies) which is likely to be the time when regulatory expertise is most needed. Despite the challenges associated with merging several regulatory agencies, the multi-sector solution should not be completely rejected, particularly in countries where existing sector regulatory agencies are performing poorly and where there are serious shortages of regulatory expertise.

Notwithstanding these challenges, creating a MSRA may be the best solution for some countries as long as they are cognizant of the challenges laying ahead. There are creative solutions to each of these problems; it just takes foresight and innovative ideas to come to a solution. For example, it may be possible to devise innovative solutions such as, 1) keeping the regulatory staff separate but sharing decision-making bodies; 2) co-locating sector regulatory agencies and allowing and encouraging mutual learning, professional advancement, and resource sharing; and 3) creating a new category of regulatory organizations within government that would be subject to the most advanced forms of administrative controls and managerial incentives.

One of the main advantages of multi-sector regulation, according to Schwartz and Satola, is the shield it provides against political and industry capture. The argument is that a multi-sector regulatory agency is more likely to be independent and therefore give more certainty to investors through good governance. Smith argues MSRAs reduce the risk of political capture since they are not beholden to any one ministry.[7] Placing responsibility for several industries into one institution lessens the possibility of political capture.

However, political or industry capture is often a matter of the regulatory framework and political realities. Only adequate safeguards can limit the interference by other parts of government or industry with vested interests.

Efficiency perspectives on MSRAs

The choice between a multi-sector and a single-sector regulatory agency depends not only on the country's institutional endowments, but also on efficiency considerations. Henten and Samarajiva[8] believe that the case for multi-sector regulation is driven by the potential efficiencies in addressing regulatory issues that are common to several utility sectors, as well as the sharing of facilities, information infrastructure, and skilled professionals.

The basic argument that Henten and Samarajiva outlay is that regulatory skills and the resources needed to obtain these skills are in short supply in developing countries.[9] The growth in competition and the need for regulation and regulatory bodies are facing a very tight supply of people with these key regulatory skills. This tight supply of regulatory specialists in most developing countries, with training in engineering, law, accounting, economics, development and social policy, may be the result

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[7] Smith, Warrick, ViewPoint, Note 128 , Utility Regulators-Roles and Responsibilities, October 1997

[8] Henten, Anders, Samarajiva, Rohan, and Melody, William H., 2003 . *Designing the Next Generation Telecom Regulation: ICT Convergence or Multisector Utility?*, Report on the WDR Dialogue Theme 2002, Regulateonline.org

[9] Henten and Samarajiva state that economically the market for regulatory skills is no different from other markets. By that they mean that just as the forces of demand, supply and price influence all markets, so is the market for regulatory skills. In a free market, prices are set by the interaction of supply and demand.

of an educational system which had not been able to address those professional needs.[10] As a result, human capacity limitations continue to be a major argument to adopt a multi-sector regulatory approach.

Henten and Samarajiva argue that the case for multi-sector regulation will be strong if it can be shown that specialized regulatory skills such as those of accountants, economists and engineers engaged in interconnection, cost studies and tariff approvals can be used across sectors. Warrick Smith[11], one of the early proponents of MSRAs, states that the sharing of resources by economists, financial analysts, and other professionals across industries is one of the key advantages of MSRAs. However, unless there is some common use for these specialized professionals the cost savings of hiring generic specialists may evaporate. It is not only the technical staff that can be shared, but the administrative staff, public relations, consumer complaints, facilities, even higher-level authorities, can also be shared. Within each agency there are areas of specialization or departments, such as for water/wastewater; energy (electricity/gas); and telecommunications.

One of the key challenges for MSRAs is the ability to effectively work with sectors that have different market structures or different levels of market maturity, which consequently impact regulatory priorities and decisions. This is critical at the capacity level but also critical in terms of sector specific revenues that are allocated for sector specific regulatory functions. A regulator should be cautious and not use telecommunications specific regulatory revenues to subsidize other sector's regulatory functions –unless the legislation allows for such transfers. This may be an argument for separating a dynamic sector such as telecom from all other sectors, particularly those that are not liberalized. On the other hand, allocating the "direct costs of regulation" across agency oversight activities is highly problematic.

Some argue that the U.S. experience shows that there may be significant economies in areas such as use of buildings, libraries, and training facilities in common. Economists and other experts disagree on whether significant economies in areas such as use of buildings, libraries, and training facilities in common are enough to justify multi-sector regulation. They argue that this analysis does not justify multi-sector regulation as such, but rather emphasizes the importance of close collaboration, shared facilities, and service and knowledge sharing among sectoral regulatory agencies.

The problem with the cost-savings rationale for multi-sector regulation is the difficulty of actually realizing the promised savings from the common supply of regulation to the different sectors. Unless several infrastructure sectors are reformed simultaneously, which is unlikely in most countries, a multi-sector regulatory agency would not be created from scratch, but would have to be the result of merging several existing agencies. Such a merger of two or more existing agencies could create significant problems, from staff morale to tensions among sector specialists.

Conclusion

In theory, a MSRA allows developing countries the potential to achieve greater efficiencies in regulation, by benefiting from shared knowledge and resources, including a common infrastructure, administrative set-ups, and specialized human resource skills, such as those of accountants, economists, engineers, and other professionals across sectors. However, in practice these savings and benefits may not accrue. Active regulatory work in one sector does not always translate in knowledge

[10] Samarajiva, Mahan & Barendse, Multisector Utility Regulation, www.regulateonline.org.; and Samarajiva, Henten, and Melody, Designing Next Generation Telecom Regulation: ICT Convergence Or Multisector Utility?, www.regulateonline.org.
[11] Warrick Smith, *Utility Regulators: Roles and Responsibilities*, World Bank Viewpoint, Oct. 1997

and action in other sectors.

One of the most critical success factors is linked to institutional consideration and in particular to the actual capacity of the regulatory agency to act: capacity in terms of political commitment to allow the regulator to regulate the sector, financial capacity, and human resources. Once these good governance conditions are in place, the regulator can then be assessed on the effectiveness of its actions.[12]

While it is true that Multi-sector regulators may optimize scarce resources, such as human resources, public finances, and technical knowledge or expertise. However, when staff resources are limited, the need to operate in different and complex sectors simultaneously increases demands on qualified staff and may also compromise the ability to develop sector-specific knowledge at an adequate pace and contribute to delays in appropriate regulatory interventions.

The research is mixed on whether the MSRA model indeed provides the expected gains, such as increased efficiency, effective regulation and eventually tangible contribution to network and economic development in a country. Thus it is too soon to tell whether the multi-sector approach will be successful in achieving the promised gains of efficiency and productivity.

[12] Brown et al, *Handbook for Evaluating Infrastructure Regulatory Systems*, (The World Bank: Washington D.C.) xx-397. There are 2 levels of effectiveness: (i) governance framework –autonomy, transparency, accountability-, and (ii) regulatory substance –sustainability, allocative and productive efficiencies, fairness-.

Advantages and disadvantages of multi-sector sector regulatory model

Advantages of multi-sector regulation	Disadvantages
Reduce risk of "industry capture" because the creation of a regulator with responsibility for more than one sector can help avoid the rule-making process being captured by industry-specific groups.	Increase risk of "industry capture" by a dominant industry player not only of the single-sector regulator but of the entire MSR body.
Reduce risk of "political capture" because a regulator with responsibility for more than one sector will necessarily be more independent of the relevant line ministries. The broader range of entities regulated by such a regulator will be more likely to resist political interference in a decision on, say, price regulation in one sector since that could set a precedent for other sectors.	Increase risk of "political capture" by a dominant ministry of not only the single-sector regulator but of the entire MSR body.
Create more precedents, and therefore less uncertainty, for investors because a decision by an MSR in relation to one sector on a regulatory issue common to other sectors (*e.g.*, the application of price cap regulation or cost accounting rules) will set a precedent that is valuable to potential investors in those other sectors.	Increase the risk that a precedent set in relation to one sector could be applied inappropriately in another sector (although this can also be mitigated by creating strong sector-specific departments underneath a central cross-sectoral decision-making body).
Economies of scale in use of one set of high-caliber professionals (*e.g.*, economists, lawyers, financial analysts). Such economies are particularly important during the early stages of liberalization and privatization in a transitional and developing country when there is likely to be a scarcity of regulatory experience.	Dilution of sector-specific technical expertise required where, for example, the skills of a tariff expert for one sector are not transferable to similar tariff issues in another sector, or, for example, of a frequency engineer.
Economies of scale in administrative and support services (*e.g.*, computers, office space, support staff), particularly important where the costs of regulation can have a real impact on the affordability of basic services.	Failure by the regulator cascades to other sectors.
Flexibility in dealing with "peak load" periods, such as periodic prices reviews, where intensive regulatory expertise is needed, which may spread across sectors if a multi-sectoral approach is adopted.	Difficulty in achieving acceptance by relevant line Ministries of the concept of having an MSR.
Economies of scale in the development and implementation of the regulatory authority whereby, for example, uniform rules on license award or dispute settlement procedures can extend to more than one sector and, therefore, avoid the need to reinvent the wheel for each sector.	Subsequent difficulty in achieving consensus from the relevant line Ministries on the type of MSR to be established.
Transfer of regulatory know-how between regulators responsible for different sectors; again, this is particularly important when a country has limited experience in regulation.	Greater complexity in establishing the legal ramework for the MSR, including the level of independence nd allocation of functions as between the Minister and the egulator.
Effective means of dealing with converging sectors (*e.g.*, telecommunications and broadcasting where it is increasingly difficult to decide what is telecoms and what is a broadcasting service, for example video-on-demand, or telecommunications and posts, for example e-mail and fax re-mailing.	Potential delays in the reform process due to the disadvantages mentioned above.
Effective means of dealing with the bundled provision of services (*e.g.*, provision of both telecommunications and electricity by the same company) and with the coordination requirements between sectors (*e.g.*, where companies from number of different sectors all need to dig up the same roads to construct their networks.	Merging existing agencies may be problematic
Avoidance of market distortions due to the application of different rules to competing sectors (*e.g.*, electricity and gas, or road and rail).	

Source: Schwartz, T. and Satola, D (2000). *Telecommunications legislation in transitional and developing economies*. World Bank Technical Paper No. 489. Washington, DC

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