

OOCUR as a Network of Regulatory Agencies

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Abstract

Networks of sectoral regulatory agencies provide regional public goods (RPGs). Such goods involve non-rivalry of benefits (if one agency uses information provided by the network, others do not need to consume less information), nonexcludability of nonpayers, and production (aggregation) technologies. In developed and developing countries, the telecommunications, energy, and water sectors have been restructured (frequently liberalized) and reformed over the past two decades. OOCUR provides a good case study of such a network sharing data and best practice techniques, developing studies, providing training, distributing regulatory materials, and organizing meetings.

1. Introduction

Regional networks of regulatory agencies have emerged as important players on the international scene: “These government networks are key features of world order in the 21st century. But they are under-appreciated, under-supported, and under-used to address the central problems of global governance.” (Slaughter, 2004: 159) Recent studies have identified the mix of organizational features characterizing these new networks: they are voluntary, consensus driven, generally lacking in formal treaty status, and (often) focusing on technical issues where cross-nation learning (and tracking) is important.

Informational collaborations among professionals at infrastructure regulatory agencies have not been analyzed very thoroughly. OOCUR, established in 2002 with the support of USAID, illustrates how a cross-country collaboration among national regulatory commissions can strengthen agencies that provide oversight, establish investment targets, and/or set prices and quality standards.

Between 1990 and 2005, more than 200 regulatory commissions were created around the world (Brown, et al. 2006, p. xi). Thus, the growth of national regulatory commissions is well documented. The growth of regional regulatory networks that provide regional public goods (RPGs) related to infrastructure is not well documented. Regional regulatory networks are comprised of representatives from national regulatory bodies who have agreed to form an

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association or organization that facilitates collaborative activities. Since 1990, at least 17 associations have been formed to provide a variety of RPGs: data for benchmarking, handbooks on regulatory best-practice, studies (including lessons regarding impacts of different policies), capacity-building for professional staff, materials for educating stakeholders, and sponsored meetings. Table 1 lists the RPGs by founding dates, with state and provincial associations for the U.S. and Canada (established in 1889 and 1976, respectively) included since both are active in international collaborations.

Table 1. Founding Dates of Regional Regulatory Networks²

Date	Organization	Seed Money
1889	NARUC (National Association of Regulatory Utility Commissioners) Telecom, Energy, Water-- United States, Puerto Rico, Virgin Islands	
1976	CAMPUT (Canadian Association of Members of Public Utility Tribunals) Energy Water, Gas, Pipeline Utilities, Canada and the United States	
1995	SATRC (South Asian Telecommunications Regulators' Council)	ITU
1997	IRG (Independent Regulators Group) Telecom	EU (European Union)
1997	ARIAE (Asociación Iberoamericana de Entidades Reguladoras de la Energía, Latin-American Association of Regulatory Agencies for Energy)	Energy Commission of Spain (CNE)
1997	TRASA (Telecommunications Regulators Association of Southern Africa)	USAID, ITU CTO (Commonwealth Telecommunications Organization)
1998	Regulatel (Foro Latinoamericano de Entes Reguladores de Telecomunicaciones)	ITU
1999	SAFIR (South Asia Forum for Infrastructure Regulation) Energy	World Bank, PPIAF
2000	AFUR (African Forum for Utility Regulators)	World Bank, PPIAF

² Since the focus here is on more organizations created by and for regulatory commissions, the list does not include organizations such as OLADE, CITEL, ERGEG, and ERG.

Date	Organization	Seed Money
2000	CEER (Council of European Energy Regulators), EU	European Commission (meetings in 1996 and 1998)
2000	ERRA (Energy Regulators Regional Association), central/eastern Europe and the newly independent states--Energy	US AID and NARUC
2001	ADERASA (Association of Water and Sanitation Regulatory Entities of the Americas)	World Bank, PPIAF
2002	OOCUR (Organisation of Caribbean Utility Regulators)	USAID
2002	ERG (European Regulators Group) for Electronic Communications Networks and Services, 2004	European Commission
2003	ARICEA (Association of Regulators for Information and Communication Services of Eastern and Southern Africa) with COMESA	USAID
2003	EAPIRF (East Asia and Pacific Infrastructure Regulatory Forum)	World Bank Public Private Infrastructure Advisory Facility (PPIAF). ³
2006	RERA (Regional Electricity Regulators Association), Southern Africa	SADC (Southern African Development Community)

Other types of organizations populate the field of regional collaborative groups. The networks can be divided into global, regional, and national in character; these can be further characterized having informal (networks and voluntary associations) and formal (agency-based or ministerial) features (as with the Eastern Caribbean Telecommunications Authority). In addition, some formal organizations are treaty-based or embedded in the United Nations, International Telecommunications Union, European Union, Organization of American States or other larger institutions. Here, the focus is on voluntary participation in regional associations of regulatory agencies, though their activities (and outputs) often parallel those of other networks.

³ EAPIRF is currently supported by the World Bank and the Australian Government. (See www.eapirf.org for more information.)

2. Motivations for the Creation of OOCUR

A regional organization such as OOCUR produces and shares knowledge about infrastructure regulation: physical links and the need for coordination, policy harmonization within regions, sources of seed money for institution-building, and global vs. regional initiatives.

2.1 Physical Links and Coordination The integration and modernization of a region's infrastructure (including energy, telecommunications, water/sanitation, and transport sectors) are often promoted as essential for sustainable economic and social development. Strains on individual country's limited resources can partly be mitigated by the provision of infrastructure related RPGs.

Complementing physical networks are the networks of regulators which facilitate the sharing of information and experience among organizations facing similar challenges. Collaboration across national boundaries can improve regulatory strategies for establishing credibility and legitimacy for new governmental agencies responsible for monitoring infrastructure suppliers and implementing public policy. Prior to the creation of separate regulatory agencies, these tasks tended to be performed in a nontransparent way by government ministries. The same ministries often were responsible for the state-owned enterprises providing infrastructure services. Splitting regulatory agencies off from ministries was supposed to insulate those implementing policy from daily political pressures. The existence of national agencies left jurisdictional gaps in addressing cross-country network issues (Binger, 2003), including radio spectrum allocation policies. However, since such issues can raise fundamental foreign policy issues, national ministries and formal treaties tend to be the main parties and mechanisms for negotiating agreements. National regulatory bodies generally serve in an advisory role in such situations, providing expertise regarding basic conditions in the industry.

2.2 Policy Harmonization within Regions The emergence of some regional regulatory networks has been stimulated by the need to close jurisdictional gaps by creating entities capable of coordinating national and regional actions and/or supplying advice to ministerial-level entities. Harmonization becomes the task for regional agencies.

2.3 External Seed Money for Institution-Building For OOCUR, outside funding served as a key catalyst for establishing the organization—funding the creation of Web pages, travel for meetings, and organizational support. Without external seed money, many of the regional associations in Table 1 probably would have been established but would have had weaker institutional support. Of course, without local recognition of gains, the organizations would have been doomed to failure. Clearly, leaders of “infant” and “youthful” regulatory commissions saw benefits from more formal forums for information-sharing.

2.4 Global vs. Regional Interests Some global institutions promote networking. The International Telecommunications Union (ITU, now with a UN affiliation) emerged to address specific industry issues and has branched out into other areas. Telegraph and transoceanic messaging served as the catalyst for the ITU's creation in 1865. New technologies, the shift to privatization, and market liberalization have brought a new set of

issues to the fore, so a revived ITU serves as a forum for governments to reach consensus on policy harmonization. Some of the regional networks in telecommunications have their start in the ITU.

While seed money has come from external sources, national regulators have not been passive; they have sought funds for providing RPGs. In addition, they have obtained support/approval from national governments to participate in regional activities. Also, in some international arenas, there may be a gap in negotiating capacities between industrial and developing countries. Sometimes the gap may serve as a stimulus for the creation of regional cross-country networks that can provide equal participation of all representatives who are engaged in addressing issues unique to particular regions. Cable and wireless play a significant role in telecommunications in the Caribbean. OOCUR meetings have facilitated information-sharing that has reduced information asymmetries.

Almost all the regions of the world now have regulatory forums of one type or another. In some regions, many national regulators are multi-sector—leading to the creation of entities that promote interactions across all sectors (AFUR, OOCUR, EAPIRF, and SAFIR). Sector-specific regulatory networks tend to characterize some regions. For example, Latin America does not have a network of all regulators cutting across sectors, nor does Europe.

3. Properties and Products of OOCUR and Other Regional Networks

Sandler (2006) shows how the provision of RPGs, including information, is influenced by three properties of publicness: non-rivalry of benefits, non-excludability of benefits and aggregation technology. Non-rivalry of benefits means that multiple individuals can consume the same good without diminishing its value to others who consume. For instance, research findings can be disseminated at no cost to users via the Internet without limiting the access of others. Non-excludability of non-payers exists when non-paying as well as paying individuals have equal access to a good. That is, potential consumers cannot be prevented (or excluded) from consuming the good. In the case of Internet access to data, the report may not involve rivalry in consumption (more for you means less for me) but the report and associated data can be password protected—leading to excludability.

The analysis of a pure public good suggests that if it is supplied privately (by the market), it will be provided in insufficient quantity. In the case of regulatory networks, the primary outputs (RPGs) are (1) events and meetings; (2) data for benchmarking; (3) public pronouncements; (4) materials for stakeholders, (5) capacity-building for professional staff; (6) best practice laws, procedures, and rules; (7) regulatory network news; and (8) technical studies. They are discussed below.

(1) Events and meetings are club goods. Non-contributors can be excluded and congestion effects can arise to the extent that having a very large number of participants reduces candor and/or opportunities to raise questions. Such gatherings can be supplied on a commercial basis: the number of technical conferences available to potentially interested parties is vast. Nevertheless, an event sponsored and organized by a network of regulators fills a unique niche in the array of events available to regulatory professionals. The topics, speakers, and formats can be determined by leaders seeking information and fresh perspectives. In

addition, such events can promote collegiality in the region. For example, as regional electricity grids become more important, the payoffs increase to harmonization of national regulatory policies and regulatory support of coordination among firms. Excludability is feasible: through registration criteria, attendance can be limited to official representatives of regulatory institutions.

In the case of the National Association of Regulated Utility Commissioners (NARUC) meetings in the U.S., some sessions are only open to commissioners or to commission staff, while other activities and presentations are available to all registrants. Meetings are a source of net revenue for NARUC. The possibility of exclusion from events and meetings on the basis of membership qualifies this product as a club good. In the case of regulatory networks, associations can practice price discrimination. Fees for some events, like dinners or plenary sessions for conferences, can be higher for non-members (such as managers of regulated firms) who value the opportunity to gauge regulatory attitudes. To limit perceptions of improper access to regulators, some meetings might be closed to outsiders—so the meetings provide opportunities to share more sensitive information and strategies across national boundaries. Contributions of participants to these meetings and events will differ depending on regional interests and objectives. The participants who are most eager to contribute are the ones who are most likely to benefit from a particular topic or format of an event. Outputs of an event that are most beneficial to one country or region may be less beneficial for some other region, sector, or country.

Organizing such events involves significant behind-the-scenes preparation. Agencies that are members of OOCUR regularly sent representatives to NARUC meetings to share experience with U.S. counterparts. They have participated in NARUC's International Committee. In 2002, NARUC signed a multiyear agreement with USAID to create the Global Regulatory Network—promoting information exchange.

(2) Data for benchmarking consist of cross sectional data that are used for comparisons—over time and across utilities. For example, quantitative studies using stochastic frontier techniques or data envelopment analysis are becoming key elements for determining X-factors for price cap regimes or network expansion targets. With information about what other utilities have been able to achieve with comparable inputs, the regulator is in a position to better establish targets, create incentives, and defend decisions. In addition to cost and productivity, service quality, network expansion, and prices can be compared across utilities and countries. Access to benchmarking data reduces the information asymmetries characterizing typical regulatory situations. This product is particularly important for developing nations where, historically, record-keeping has been weak. Regulators in a large nation can compare performance across suppliers, identifying strong and weak firms. For smaller nations with only one supplier of network services, data from neighboring nations facing similar geographic, topological, and resource constraints can be very helpful. Of course, national regulators can exclude others for accessing the information (an excludable public good), but that runs counter to transparency and citizen participation in the process—reducing the legitimacy of the regulatory process. ERRA receives some funds by charging for access to benchmarking databases.

Developing templates for reports (and data definitions) does require collaboration or acceptance of formats developed by others. In this context then, data for benchmarking could more realistically be viewed as a pure public good. The non-excludability of benefits property of this good gives rise to potential supply problems, especially where data are difficult to disaggregate and where updating record-keeping (and standardizing definitions) may require significant effort. The usefulness of benchmarking data will therefore depend on the effective collaboration of enough countries within regions with sufficient data to make performance comparisons useful. Data below a certain threshold will be useless for comparison: benchmarking would be ineffective. Again, the focus is on improving sector performance through the creation of RPGs. Benchmarking represents a potential area for greater OOCUR collaborations.

Benchmarking for water and sanitation utilities is promoted by the World Bank's International Benchmarking Network for Water and Sanitation Utilities (IBNET) <http://www.ib-net.org/>. The site provides guidance on indicators, definitions, peer comparisons, and research methodologies. However, due to potential privacy issues, identifiers are not shared.

(3) Public pronouncements made by regional regulatory networks are unlikely to be highly controversial, given the weakest-link technology. Nevertheless, such statements represent shared views on important issues, identify objectives (if not overall priorities), and provide guidelines for strengthening regulatory procedures. Public pronouncements are official statements, notices, or announcements that are recognized by authorities as providing principles that affect how regulators address issues. Public pronouncements include documents such as a network's mission statement. One role of public pronouncements is to make commitments to providing particular programs, support, and information. Public pronouncements are pure public goods because they are available to everyone and therefore are non-excludable in nature.

In 2004, for instance, the Association of Water and Sanitation Regulatory Entities of the Americas (ADERASA) Benchmarking Task Force met to agree on objectives and strategies, to discuss the basis of starting management indicators, and to establish the methodology and agenda for the initial stage of the project. In this setup, any member of the task force could potentially water down the quality of the objectives and strategies if they have an incentive to do so, because the benchmarking task force decision must involve the contributions of all its members. In group announcements of this nature, all the participants have to be in agreement. Some pronouncements reflect broad consensus about emerging issues (if not specific strategies for resolving those issues).⁴

OOCUR has not chosen to use this potential output of regulatory associations.

⁴ For example, the Latin American telecommunications regulators' network (Regulatel) and Hispano-American Association of Research Centers and Companies of Telecommunication (AHCET) co-sponsored a conference in July 2006 that led to a "Declaration on Convergence and Harmonization" in the digital arena. Such pronouncements can be vague, but the associated forums provide opportunities for exchanging ideas and sharing lessons.

(4) Materials for stakeholders enable national regulatory commissions to educate and influence those affected by regulatory decisions. Establishing legitimacy for citizens and credibility for investors and ministries requires that agencies document procedures and methodologies. Such material represents another output that could be provided by external parties, including consultants funded by donor countries and multinational organizations. However, documents that are handed down by “outsiders” may not address the unique legal and other institutional features facing nations in a region. National regulators have less ownership of “hand-me-downs.” Nevertheless, the *Telecommunications Regulation Handbook*⁵ (2000), the *Handbook for Evaluating Infrastructure Regulatory Systems* (Brown, et al. 2006), and other volumes represent valuable starting points for national regulators. One could argue that this type of information tends to be a global public good since access to the information internationally is non-rival, and excluding non-payers from accessing the information is difficult. In recognition of the value of such material, the World Bank has been very active in funding the development of such resources.⁶

(5) Capacity-building for professional staff could be viewed as a private good with standard properties of rivalry in consumption and excludability (Rufin, 2004). Capacity-building technologies exhibit significant sunk costs and scale economies in the production of relevant materials and classes. Congestion effects might be of minor importance. Thus, while pure market mechanisms might yield relatively efficient outcomes for some types of classes for professionals, there is a case for cost-effective delivery of specialized training via cooperative programs across nations. For example, the Organization of Caribbean Utility Regulators (OOCUR) has put on advanced training courses for regulators in the region in collaboration with the Public Utility Research Center (PURC). The Energy Regulators Regional Association (ERRA) has developed links with (Hungary’s Central European University (Regional Center for Energy Policy Research) to assist with training. The African Forum for Utility Regulators (AFUR) has worked with the University of Cape Town’s Graduate School of Business Management Program in Infrastructure Reform and Regulation for developing and delivering training. In South America, the Universidad Argentina de la Empresa (UADE) offers a post-graduate program in regulation; UADE collaborates with regulators in the region; in addition, the Universidad Austral (Buenos Aires) offers a post-graduate course in regulatory legislation. ADERASA, in collaboration with UADE, is developing an E-learning Program in Economic Regulation, available not only for its own members but for all stakeholders, including regulators for other sectors and utility staff (www.campusvirtual.aderasa.org). Similarly, the Florence School of Regulation (with EU funding) has responded to training demands within the EU. Universities play an important role in this area, given their teaching capabilities and interest in translating principles into practice.⁷ In addition, consulting firms provide training and certification programs.

⁵ The Information for Development Program <http://www.infodev.org/> has published its *Telecommunications Regulation Handbook* (Intven and Tétrault, 2000) in six languages, hard copy and online.

⁶ In addition to items noted in the previous footnote, the World Bank has manuals on price controls (Green and Pardina, 1999), infrastructure efficiency measurement (Coelli, et al. 2003), and other topics. In addition, the World Bank funded the Body of Knowledge on Utility Regulation <http://www.regulationbodyofknowledge.org/>.

⁷ For example over the past decade, the University of Florida’s Public Utility Research Center has delivered the PURC/World Bank International Training Program on Utility Regulation and Strategy to over 1,800 participants from 132 nations. See www.purc.ufl.edu.

One potential role of regulator networks is to share information about the cost effectiveness of different programs and the quality of support materials. Partial exclusion encourages contributions (fee payment): in some instances, members of particular groups may benefit from the program at reduced cost, thereby increasing the likelihood that a regional training program will be successfully provided. Such a RPG can be viewed from the perspective of the better-shot aggregation technology. The total amount and the quality of training provided via regional networks are largely dependent on the trainer's effectiveness and the ability of network representatives to identify regional needs. Other determinants of quality are the contributions of the participants themselves. Lack of preparation on the part of participants can water down the value of a training session, but a poor quality leader/trainer can significantly lower the overall quality and usefulness of the program (suggesting that a weaker-link aggregator is also possible).

(6) Best practice laws, procedures, and rules that address institutional and policy issues on a regional or global level are useful to particular regions and countries depending mainly on how valuable or applicable general solutions can fit specific regional situations. Current responsibilities of regulatory institutions involve a set of tasks ranging from awarding licenses or concessions, administering rules included in licenses such as tariff levels and adjustments, resolving disputes among the different stakeholders (especially incumbents and entrants—in terms of interconnections and access to bottleneck facilities), monitoring firms' compliance with regulatory guidelines, and prosecuting and penalizing firms for noncompliance. The value of model laws will depend on how well they can be tailored to fit national contexts. The relevance and applicability of a model law determine the value of the output, but the use of less compatible information with particular institutional features could also contribute valuable information or guidance that helps to form the basis for action in accordance with the better-shot aggregation technology. For instance, information on how particular nations calculate rates for interconnection of telephone networks does not consider unique issues relating to the availability (and disaggregation) of historical (and forward looking) data which reduces the benefits of "model" procedures related to cost-based pricing. OOCUR meetings have often featured presentations by professional regulatory staff members who describe regulatory procedures. Such information on a nation's experience can contribute conceptual frameworks that could be tailored to be used in deriving interconnection prices in another nation.

(7) Regulatory network news represents another product that is similar to events and training. Recent developments can be distilled and disseminated across countries. Professionals gain experience by contributing summaries of national developments—helping counterparts in other nations understand the implications of new rulings. Although information on new books, videos, and other educational material can be supplied competitively, regulator networks can screen, evaluate, synthesize, and promote the use of different types of material. Such evaluations are basically public goods—where the information might be shared informally (excludability possible) or through open Web sites.

The most recent OOCUR newsletters posted on its Web site are from March and June 2004. Newsletters do not seem to be an important product for this association.

(8) Technical studies including lessons regarding impacts of different policies, are GPGs or RPGs, depending on the applicability of the lessons for particular regions or for all nations. Rufin (2004) identifies research as one of the valuable regional public goods in his review of infrastructure issues. Analysts provide technical studies that can assist regulators in reforming the design of regulatory institutions, processes, and incentives. Studies are often funded by (and sometimes conducted by) donor nations and international organizations. Studies prepared under research contracts or consulting projects are often made available on sponsoring organization Web sites. Since there is no general recipe for best practice regulation, studies that incorporate the national (legal) and other institutional constraints can lead to insights for regulatory commissions facing similar circumstances. Regional task forces also give professional staff at national commissions opportunities to gain valuable experience in specialized areas through technical meetings. Related public goods are in systems that improve access to the diverse studies. Google represents one search mechanism (requiring some familiarity of how organizations support research and/or serve as gatekeepers in the process); the PPIAF-funded resource www.regulationbodyofknowledge.org is another vehicle for locating relevant infrastructure studies.

Note that when new regulatory agencies were being created in the 1990s, expertise in utility regulation was limited, particularly in developing countries. Leaders saw the potential for substantial savings if information could be shared between countries and sectors, even where particular agencies were contracting out for expert advice (often funded by donor nations or multilateral organizations). In essence, regional regulatory networking facilitates cooperation among countries to deal with shortages of technical know-how.

4. Regional Regulatory Institutions

Another hybrid between ministerial and regulatory roles arises when infrastructure commissions are regional in nature. Because issues of national sovereignty arise when responsibilities are delegated to supra-national (regional) organizations, the number of transnational infrastructure regulatory commissions is relatively small. Furthermore, even when the entity has treaty-based authority, it often only makes recommendations to national authorities. Nevertheless, the recommendations have a legitimacy that national-sponsored proposals would not have because they are the result of a consensus that transcends national boundaries. For example, the Eastern Caribbean Telecommunications Authority (ECTEL) is a regional telecommunications advisory body for its member countries. ECTEL's responsibilities include the creation of a coordinated approach to telecoms regulation, and the promotion of fair competition in telecommunications service within its member countries. ECTEL advises governments on regional policy, types of telecommunications services, licensing, fees, pricing, and the management of the Universal Service Fund.

With the formation of international electricity grids, similar functions are beginning to be assigned to transnational regulatory agencies. The Economic Community of West African States (ECOWAS) secretariat is developing an agency that would assist in the regulation of transmission in the region. As in the case of ECTEL, issues of control (voting power) and authority (final decision or recommendations) will arise as national interests come into

conflict. However, infrastructure development is not a zero-sum game: the gains to coordination can be substantial. The presence of network externalities—increased benefits with more members—makes the creation of physical networks (and RPG oversight agencies) a positive sum game up to the point at which all relevant members are included. The sequencing of investments, pricing of services, and incentives for good performance have implications across national boundaries, resulting in the creation of regional organizations. Similar groups have formed in South Asia, Central America, Southern Africa, and other regions.

5. Concluding Observations

With five years of experience, this might be a good time for OOCUR to review its own performance to date. In addition, it might consider whether additional members would strengthen the organization (or possibly dilute the focus)

Working together in regions has relatively low costs and provides opportunities for participation by those with technical skills. The “life-expectancy” of a typical commissioner might be less than four years; professional staff can benefit from capacity-building and the sharing of experiences. Thus, regional networks are able to balance the clout of regulatory leaders with the continuity of personnel.

Establishing a research agenda is idiosyncratic, and thus problematic; however, the following questions might serve as starting points:

- (1) *What are the motives of the founding leaders of regional networks?* Developing a sustainable organization is not an easy task. Given the tendency for relatively short terms of sector commissioners, do the working professionals at the agencies provide initiative and continuity or are the regulatory leaders the ones most committed to networking, given their interest in gaining information quickly so they can be effective during their short tenures? Of related interest is the role of outsiders (academics, consulting firms, and operating companies) in the evolution of these networks. Has OOCUR been able to continue its links with experienced regulators after they have left their official duties?
- (2) *What are the optimal funding sources and mechanisms for regulatory networks?* This question is applicable to OOCUR. The case for further funding depends on incremental benefits exceeding incremental costs. Given the importance of stable, predictable, and transparent regulatory systems for infrastructure investment, performance improvements in just a few nations would justify the investments in regional data exchanges and sharing best practice techniques.
- (3) *What are the ultimate objectives of those providing seed money for these new organizations?* The motivations behind funding organizations raise some interesting and important issues. While the networks may be producing regional public goods, the intentions of the actors involved in funding and advising the networks probably go beyond the “efficient supply of RPGs.” For example, one likely objective for the World Bank’s and USAID’s early support for regulatory networks was improving the

investment climate for private participation in infrastructure—which certainly can contribute to growth, but involved tilting multilateral and other funding away from state-owned enterprises.

- (4) *Does embedding these networking organizations within larger institutions improve their performance?* Having an international umbrella organization (UN, EU, or OAS) might provide a funding source and expand the network's influence. Alternatively, the associated bureaucracy might lead to less innovative activities by the organization. Another model is having sector umbrella organizations like the International Telecommunications Union, International Energy Agency, and World Water Council take initiative for supporting regional regulatory networks. Would more formal links with the Caribbean Community (CARICOM) be beneficial for OOCUR?
- (5) *Is there an optimal region (or number) for networking?* It is unlikely that there is a unique (and simple) partitioning of nations, given cultural heterogeneity in some regions (West Africa), different political traditions and stages of development, and degree of shared interests (or tensions). Nevertheless, it is worthwhile to consider whether particular circumstances are especially conducive to productive networking activities. OOCUR seems to have some natural geographic limitations.
- (6) *What are the impacts of networking?* A major area for future research involves determining whether the benefits (in improved national regulations and enhanced sector performance) have justified the investments in these new institutions to date. If the payoffs have been high, the World Bank and the regional development banks should consider devoting more resources to networking organizations that strengthen capacity at national regulatory commissions. NARUC evaluated ERRA (Voll and Skootsky, 2004). Perhaps OOCUR could conduct a similar study.

These questions will require much more detailed analyses of case studies, including interviews with or surveys of those most affected by these new networking organizations: national commissioners and professional staff. Good infrastructure regulation has an indirect demonstration effect within each nation, illustrating how transparency, citizen participation, and staff professionalism promote legitimacy and public confidence. In addition, there is a direct effect on infrastructure: the promotion of network expansion, cost containment, and improved service quality. If a few nations have benefited from the outputs of regulatory networks, the initial seed money has been worth it. The next question is how to make organizations such as OOCUR more effective in improving infrastructure performance that contributes to economic and social development.

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