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Decentralized infrastructure development in the Philippines: Constraints, governance, and regulation in water

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**Decentralized Infrastructure Development in the Philippines:
Constraints, Governance, and Regulation in Water**

by

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DECENTRALIZED INFRASTRUCTURE DEVELOPMENT IN THE PHILIPPINES: CONSTRAINTS, GOVERNANCE, AND REGULATION IN WATER

By Dante B. Canlas and Margarita Debuque-Gonzales¹

ABSTRACT

This chapter discusses infrastructure development in the Philippines under decentralization using illustrations mainly in the water sector. It opens up a study of the constraints and challenges in governance and regulation that local government units (LGUs) face in narrowing down the infrastructure gaps in their various jurisdictions. To enable LGUs' project proposals to get into the priority public investment program of the national government, the former must have skilled human resources capable of conducting the technical, legal, and financial analysis required. In governance, they must be able to navigate the complexities of water-pricing regulation. At the start, LGUs will need a good deal of technical, legal, and financial assistance from the national government in raising their capacity to overcome the challenges. However, through learning-by doing and as LGUs are able to mobilize additional resources using their power to impose tax and non-tax measures, decentralized infrastructure development can take off, guided by an effective division of labor between the national government and LGUs.

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1. Introduction

One of the major factors driving economic growth in the long run is investments in public capital. In this chapter, accumulation of public capital is focused on physical-infrastructure investment by government. Combined with accumulation of human, physical, and technological capital, investment in infrastructure facilities helps generate inclusive growth, raising expectations that people's standards of living improve with no one left behind over a long period of time. Thinking about government spending has always been double-edged—one side recognizing the pure multiplier effect on economic activity, and the other acknowledging the possible crowding-out effect on private spending. Infrastructure spending, however, stands out among the different types of government spending, as it is widely viewed as complementary to private production with chance of yielding increasing returns.

Traditionally, infrastructure development and delivery of services from the constructed facilities emanate from tax-and-spending schemes of the national government. Positive externalities from infrastructure services or spillover effects that confer benefits to third parties provide a compelling reason for government provision. In many developing countries, the central or national government frequently takes the lead in infrastructure development, given the scarcity, for one, of skilled human resources many of whom are in the employ of the national government. However, as the country ascends the economic-development ladder, private provision of infrastructure facilities becomes feasible, specifically, in cases where pricing of the services is technologically possible, such as, water, power, and toll roads. In addition, the ability to exclude clients hesitant to pay the price can be excluded or disconnected from the infrastructure system. Pricing and the ability to exclude users who are not willing to pay the price are preconditions to private provision of public infrastructure.

However, even if the government continues to be the sole provider of infrastructure services, the issue remains: which level of government is best suited for the purpose? Over the recent decades, there has been a growing recognition in many emerging and developing economies that the national government does not necessarily have a monopoly in the provision of infrastructure services. Sub-national governments can do just as well, particularly in view of their ability to respond to and account responsibly for the needs of their constituents. For instance, in the case of a transport system involving interlinked national and local roads, which enable people in the periphery to access in a convenient way the services from social infrastructure facilities like schools and hospitals that normally are located in the center, local government units (LGUs) are well placed to build and provide the services from secondary roads. Accountability is essential under a democratic political process; LGU officials remiss in their duties can be replaced during elections.

Decentralization or devolution has increasingly gained acceptance as a mode of delivering infrastructure services in many sectors. The Philippines enacted a Local Government Code (LGC) in 1991, which defined a division of labor between the national government and LGUs in the provision of economic and social services. Basic health and social-welfare services, for instance, have been devolved

to LGUs. Moreover, LGUs are authorized by law to build local infrastructure facilities, such as water supply, municipal roads, and farm-to-market roads. Local officials, cognizant of the needs of their constituents, are in a position to respond in a timely manner.

To enable LGUs to deliver devolved social and infrastructure services, they get cash transfers, a percentage of total internal revenues of the national government, in the form of internal revenue allotments (IRA). LGUs have limited taxing powers, and mostly in the form of property and business taxes. They are however allowed to undertake public projects using a mode popularly referred to as public-private-partnership (PPP), which is legally based on the build-operate-transfer (BOT) Law .

Both the national government and LGUs face tight financing constraints in delivering infrastructure facilities. Tax and non-tax funds from the LGU budget do not suffice to build new facilities and maintain existing ones. To help ease the LGU budget constraint, private provision has been ushered in. However, given LGUs' heterogeneity by per capita income, they confront not only financing constraints but also human-resource constraints. To overcome both constraints, a number of grants and subsidy schemes, differing in magnitude depending on LGUs' rank in a hierarchical ordering by income level, are essential. LGUs have to raise their capacity to overcome these two constraints, with a good deal of assistance from the national government.

To be able to tap private-sector financing of infrastructure projects, Republic Act No. 7718, also known as "The Philippine Amended BOT Law" was enacted, thereby opening up the participation of the private sector in the infrastructure program of the government at both the national and LGU levels. The BOT law enumerates various contractual arrangements defining how the private sector can participate. The amended Implementing Rules and Regulations (IRR) of RA No. 7718 were issued in 2012. Today, projects under the BOT law are commonly referred to as PPP projects.

This chapter opens up a study of private provision of infrastructure in the Philippines under decentralization with examples mainly from the water sector, where the major tasks include development of water sources, supply distribution, and treatment and sewerage facilities. One should note that investment in water and related facilities in itself deserves close examination, especially with research showing how countries focused on building basic infrastructure such as water, sanitation, and transport during the early stages of their economic development (Abiad, Debuque-Gonzales and Sy 2018). Moreover, if the goal is to reduce inequities across localities within a country, one could easily argue that addressing the lack of such facilities in lagging areas, would certainly be a major step to evening out regional imbalances.

To provide vital background, this chapter looks at the important constraints in the project cycle that LGUs face in embracing PPP as a mode of implementation while also offering some solutions. On their own, one basic challenge that LGUs face pertains to getting local projects in the priority list of the public investment program coordinated by the National Economic and Development Authority (NEDA). Project preparation is just the first stage. It is well recognized that LGUs confront many constraints in the infrastructure project cycle, including, as mentioned, human-resource and financing constraints. LGUs differ not only in their capacities to finance projects, but also in their technical capacities to carry out pre-construction project activities. .

This study also discusses governance and regulation of the water sector. In governance, focus is on the implementation rules and institutional arrangements in delivering public goods based on the non-

market allocation system of the government. Under PPP, the private concessionaires allowed to operate are generally natural monopolies in their concession areas. They do not get any subsidies from the government and therefore rely on user fees to earn just and reasonable returns from their investments. However, to protect final users from monopolistic pricing, the government regulates water pricing.

The chapter also seeks to find out how adequate the delivery of water infrastructure services is at the LGU level. We review the economic rationale for private provision of water infrastructure and the basic challenges LGUs confront. In the context of encouraging inclusive growth, the following questions deserve answers: Are water infrastructure services failing the poor? If so, what measures can the national government and LGUs implement to rectify the situation? As regards private sector participation, how effective is the institutional framework governing PPP at the LGU level for the water sector?

The challenge of delivering infrastructure services to the poor, who mainly live in the periphery, particularly, in rural agricultural areas, remains formidable. Many of them tend to occupy unsafe and environmentally risky residential and livelihood areas. The Philippines being a disaster-prone area, natural disasters like typhoons and floods always inflict a heavy burden on the poor. Project design therefore has to be responsive to their special needs.

This chapter is organized as follows: Section 2 looks at the links between accumulation of public capital, that is, infrastructure investment, and growth, and discusses the possible role for LGUs. Section 3 looks at the human and institutional constraints that LGUs face in infrastructure development, particularly, under PPP. Section 4 looks at some modes of financing that may help overcome these constraints such as: (i) block grants from the national government to LGUs; (ii) user fees and private provision; and (iii) hybrid models involving a mix of grants and loans to LGUs as well as user fees. Section 5 examines governance and the regulatory issues—legal, financial, and technical—using the water sector as example. Section 6 makes concluding remarks.

2. Infrastructure, growth, and the role of LGUs

Government spending generally falls under two types. One substitutes for household consumption. For example, if the government decides to build a park, then residents of a subdivision nearby need not build one themselves. In this case, government spending replaces private spending by residents. The other type consists of public goods that complement private inputs. Typical examples include roads and bridges, which support distribution of private goods.

Public infrastructure facilities are generally considered complementary to private production. They are pure public goods in the sense that use of their services by one producer or consumer, say in the case of a road, does not diminish the services available to others, bar congestion. At the same time, it is possible to get private participation in infrastructure construction if pricing of the service is possible and market agents who do not want to pay the price can be excluded from using the facility. This is the arrangement in the case of toll roads, highways, and bridges.

Viewing government spending as public capital that supports private production allows the construction of growth models along neoclassical lines that include government spending as a factor of production (see, for example, Ernst Berndt and Bengt Hansson 1991). The production function incorporates government spending, e.g. infrastructure, along with the labor and capital inputs of the firm, whether human or physical. As a particular firm increases its capital stock, aggregate public capital also increases. This leads to technological progress insofar as technology is embodied in capital. Other firms

then follow and use the public capital whose services are not diminished by early firm entrants that used it. There is thus increasing returns as the use of public capital spreads to the rest of the economy.

A little introspection brings out the growth effects of infrastructure spending: accumulating the latter gives rise to overall productivity improvements and increasing returns, raising long-run steady state growth. Interestingly, research on the impact of local government spending on regional output growth show that multiplier effects are highest for capital investment—such as on plant, property, equipment, and public infrastructure—even in the short run (Debuque-Gonzales 2020). Regional multipliers are likewise significant in the case of spending on economic services by LGUs, which in Philippine local government finance accounting system may include a wide array of expenditures including on water systems.

In the Philippines, LGUs are authorized by law to invest in public capital for their respective jurisdictions. They are, after all, the most cognizant about the needs of their constituents. To the extent that the benefits are largely local, one could convincingly argue that LGUs should really be the ones in charge of investing in infrastructure facilities. Water supply and municipal roads are illustrative. The argument for a water supply project is particularly strong, as distribution of piped-in treated water to households leads to positive externalities. With safe potable water, infections and water-borne diseases are minimized, which is essential in the Philippines where 0-5 child- along with maternal-mortality rates are high. The need for government intervention in the water sector cannot thus be overemphasized.

Two episodes in the country's development history when private participation contributed to infrastructure rescues of the economy—i.e., from chronically poor service provision—are worth narrating. In the early 1990s, a power shortage gripped the Philippines. At the height of the crisis, daily 11-hour brownouts occurred. All sectors of the economy (agriculture, industry, and services) saw output slowdowns, followed by declines. Then President, Fidel Ramos, saw to the enactment of the National Power Crisis Act in 1993, which allowed private participation in power generation. That paved the way for the entry of Independent Power Producers (IPPs). That Act ushered in the enactment of the Electric Power Industry Restructuring Act (EPIRA) in 2001. EPIRA provided for the privatization of power generation and transmission, which had long been monopolized by a government corporation, the National Power Corporation (NPC). Moreover, deposits of natural gas in commercial quantities located in Malampaya and Camago were discovered through a joint venture between the government's Philippine National Corporation (PNOC)-Energy Corporation (EC) and private firms Shell Philippines Exploration and Chevron. This started the development of the country's upstream indigenous natural gas industry. The joint venture has led to the construction of gas-fired power generating companies in Batangas whose total output today accounts for at least 3,000 of the total power requirements of Luzon.

Another infrastructure rescue occurred in 1997 with the privatization of the water franchise of the Metropolitan Waterworks and Sewerage System (MWSS) in Metro Manila. Under MWSS, water coverage averaged 2 hours a day at low pressure. Moreover, non-revenue water (also known as system losses) ran to about 60% annually. As the crisis persisted, Pres. Ramos pushed for the enactment of the National Water Crisis Act, which paved the way for the entry of Maynilad Water Services and Manila Water Company as concessionaire-operators of water distribution and treatment. Much progress has been made since then, particularly, in lifting water coverage to 24 hours per day and raising the water pressure reaching households. Both achievements are not costless, requiring major capital spending in upgrading the infrastructure support.

The concessionaires are natural monopolies in the areas where they operate and are allowed to charge user fees for cost recovery. They receive no subsidies from the national government. In the arrangement, government regulates water pricing to protect consumers. Concessionaires are allowed to earn revenues enough to recover operating costs, capital maintenance, investment spending, debt service payments, and business taxes as allowed by law. The return to capital must be sufficient, just, and reasonable to ensure that investments, whether financed by loans or equity, continue to flow in. Every five years, the MWSS Regulatory Office (RO) calls for rate rebasing prior to any price adjustment as provided for in the Concession Agreement (CA).

During the administration of Pres. Benigno Aquino Jr., the price increase recommended under the (third) rate-rebasing exercise was not implemented, forcing the concessionaires to seek arbitration as provided for in the CA. The two concessionaires also sought recovery of their corporate income taxes (CIT). A uniform decision on pricing was reached in arbitration in that the price increase that emerged from the rate rebasing was to be enforced. The arbitration panels, however, had conflicting decisions on the treatment of CIT: positive for Maynilad, and negative for Manila Water. Pres. Rodrigo R. Duterte, the incumbent Chief Executive when further arbitral rulings arrived that were favorable to the two water companies, disagreed with the decisions and threatened to cancel the contracts with the two concessionaires.

Under such an environment, the challenge now is how to rescue the water-concession contracts and stop the erosion of investors' confidence, not only in water, but in all other PPP projects of the government. The privatization of the MWSS water franchise has long been regarded as a successful model for future water projects, including those of the LGUs. The disturbing pronouncements of Pres. Duterte may jeopardize future water projects. It adds executive risk on top of market and judicial risks that potential private investors must seriously consider. They may just refuse to enter the industry if they regard the executive risk as insurmountable and uninsurable.

From an institutional standpoint, it is clear that most LGUs lack the legal, technical, and technological capabilities to invest in major public capital projects in their jurisdictions. Subsidies from the national government are vital in raising LGU capacity in these areas of concern. To get these subsidies for capacity building and subsequent capital assistance, local governments must have expertise in developing local projects that are socially efficient and equitable. Institutions they must deal with are the regional development councils (RDCs), one for every region, which are charged with reviewing local development projects. The secretariat for the RDC is the NEDA Regional Office (NRO), which requires feasibility studies whenever a project document is submitted to it.

LGUs are in most need of help when tapping financial markets. Most LGUs are credit constrained. They cannot tap commercial loans for large development projects. Such circumstances, as we will discuss below, would require that a special purpose bank be put up by the government to enable LGUs overcome their limited access to long-term project loans.

3. Human Resource and Institutional Constraints

As a point of departure, it is useful to understand the institutional framework commonly used by the Philippine government in approving projects under PPP. An implementing agency (IA) of government, whether national or local, endorses to the NEDA Secretariat the project document for consideration in

the agenda of the Investment Coordination Committee (ICC), an inter-agency committee of the NEDA Board, which the President of the Philippines chairs.

In the overall schema of development planning or non-market allocation led by the Philippine government, the national government screens proposed government projects using project-evaluation and cost-benefit analysis. Project evaluation is a way to prioritize candidate projects and heighten the likelihood that approved projects are socially efficient.

The ICC screens proposed projects. Project documents that IAs submit include feasibility studies (FS) to determine ex ante whether benefits of the project to Philippine society outweigh social costs; these are the basic rudiments of down-to-earth cost-benefit analysis. Once the NEDA technical staff receives a submission, it reviews the project evaluation the IAs have conducted. The concerned NEDA staff assesses the assumptions, data, and analytical approaches of the IAs; if the review is satisfactory, the technical staff recommends the proposed project for inclusion in the agenda of the ICC Technical Board (TB). If the project hurdles the TB review, the ICC Cabinet Committee (CabCom) takes it up. Once the CabCom approves, it is placed in the agenda of the NEDA Board chaired by the Philippine President for final approval.

3.1. Human Resource Needs

Cost-benefit analysis is a results-oriented analytical tool in project evaluation. Since prices are not observed in many public projects, shadow pricing is resorted to in order to estimate as accurately as possible the correct opportunity costs of resources or inputs used in the project. The decision rule: If the benefits from the proposed project outweigh the costs, the project is approved; otherwise, it is turned down.

In this approach, the LGUs need technically trained manpower capable of preparing project documents required by the ICC. The skill set of the staffs should include knowledge of economics, public finance, engineering, information technology, and other quantitative methods. It seems clear that LGUs need to recruit and train people for staff work with this skill set. Once the LGUs have assembled a trained staff, they must design a compensation and incentive structure that is sufficiently attractive for the staff to stay with the agency.

It helps if oversight agencies of the government can institute a career track in LGUs that provides incentives to highly trained recruits to stay with the local agency. Oversight agencies like the DBM and a constitutional body like the Civil Service Commission (CSC) are well advised to pursue the career track in view of the fact that elections of local government officials are held every three years; the decisions of a previous governor or mayor may not bind a newly elected replacement and resort to a sweeping replacement of the highly trained staffs hired previously. Institutional memory stays in the LGUs if a career track is instituted.

The LGUs can also hire consultants for a proposed project. Still, there must be members of the staff that can rigorously evaluate the work of consultants before accepting the latter's reports. Moreover, it is critical for the agency to familiarize itself with government procurement rules overseen by the Government Policy and Procurement Board (GPPB) that is attached to DBM. Project delays are frequently encountered if the agency is unable to conduct procurement in accordance with the rules established by the GPPB. Further delays may be encountered in case the Commission on Audit (COA) issues some audit observations, ex post, at some stage of the project that requires explanations from the agency.

It is understood that LGUs are heterogeneous, differing at the very least in income levels. Rich LGUs, say, first-class municipalities and cities, can afford to recruit and hire highly trained staff, while lower-class LGUs need grant support to hire and train such staff. The national government can design a grant-matching mechanism whereby LGUs get graduated grant support ranging, for instance, from 50% to 100% of project preparatory costs, provided proposed projects are consistent with priorities of the national government in its medium-term development plan. It seems clear that the grant-matching mechanism should be progressive; that is, grant amounts to LGUs increase as their income levels decrease.

Consider, for instance, solid-waste management projects. Environmentally friendly, they constitute priority projects of the national government. Implementation is devolved to LGUs. However, low-income LGUs require subsidies from the national government to be able to undertake this type of plan. Similarly, water projects are vital in ensuring success of solid-waste management projects and are thus accorded top priority by the national government.

Private participation is possible with both water and solid-waste management projects. Water meters are installed in households willing to pay to be connected. In waste management, the ability to price the various services, from collection to disposition, is an inducement for private participation. In both cases, households that decline to pay the fees for the services involved can be excluded. Usually, for humanitarian reasons, exclusion is not total. The government often steps in with so-called lifeline rates wherein poor households enjoy subsidized rates.

If low-income LGUs can overcome the human-resource constraints in pushing these projects forward, they would naturally be much less vulnerable to implementation delays. Benefits of such basic infrastructure would also be realized at a faster rate than in a scenario where they remain poorly equipped and lacking skilled and technically capable manpower.

3.2. Governance Issues

Investment in installing a public infrastructure system illustrates non-market allocation led by the government. Non-market allocation is resorted to when markets guided by a decentralized price system either fail or the aggregate output falls short of the total amount of commodities that society values. Good governance is critical in the delivery of public goods. The project cycle commences with project development, budgeting, and financing, and goes all the way to implementation, monitoring, and evaluation. If PPP is used in procuring the services of a private provider, the entire process involves adhering to an elaborate set of implementing rules and regulations (IRR). Institutional arrangements are forged once the parties agree on the procurement of a public project.

In the Philippine government, the procurement process has been evolving since 1986, the year martial-law rule ended, and democratic political institutions were restored. Prior to 1986, there were several procurement laws that encouraged forum shopping, which created a plethora of inefficiencies. To address these inefficiencies, the government enacted a unified procurement law in 2002 known as the “Government Procurement Reform Act” (Republic Act 9184), which created the GPPB. The DBM chairs the GPPB and includes the two other oversight agencies, namely, NEDA and the Department of Finance (DOF) as members.

NEDA coordinates the preparation of the Medium-Term Philippine Development Plan (MTPDP) and its companion document, the Medium-Term Public Investment Program (MTPIP). DBM leads in

preparing the annual budget, the National Expenditure Program (NEP) of the government that the President submits each year to Congress, leading to the annual General Appropriations Act (GAA). DOF is in charge of preparing the program of revenue, whether tax or non-tax, supporting the GAA. The three oversight agencies coordinate their activities in the Development Budget Coordinating Committee (DBCC) and the ICC, which are both inter-agency committees of the NEDA Board chaired by the President.

IAs prepare the project documents with the requisite information, such as the social rate of return and weighted average cost of capital (WACC) required by the ICC. The submission is reviewed by a NEDA technical staff. If the review of the project is considered satisfactory, it is included in the agenda of the TB of the ICC, then to the CabCom, and eventually to the NEDA Board for final approval.

If the project is funded purely internally, that is, using only government budget funds, then project cost in a given year must be appropriated in the annual GAA. Even if concessional loans from Official Development Assistance (ODA) are tapped, GAA appropriation is also required. But if the project follows a PPP mode and uses only funds provided by the private partner, then project cost is off-budget.

PPP projects are either solicited or unsolicited. Solicited projects are subject to international competitive bidding, while unsolicited ones confront a price challenge within a predetermined period of time. The government has rendered unsolicited projects eligible under PPP mainly to be able to take advantage of advanced technologies that private providers, but not the government, have access to. Unsolicited ones, however, are not, by law, qualified to receive direct or indirect support from the government.

LGUs are allowed to implement PPP projects. The two pieces of legislation in this connection are R.A. No. 7718, Series of 2012, entitled, "The Philippine Amended BOT," together with the LGC. Projects, whether economic or non-economic, are qualified. For instance, roads and other transport systems are economic in nature, while schools and health clinics are categorized as social projects.

There has been an upsurge of interest in good governance and its various dimensions, particularly, in aid of fiscal policy. One major reason is that public goods abound, and they include national security, peace and order, and a legal system. People when asked if they would like to have these services generally answer yes; however, if asked how much to pay for these services, they decline to reveal the price they are willing to pay, citing everybody benefits. The market fails, and so the government intervenes based on a tax-and-spending scheme to address market failures and limitations.

In levying taxes to fund such public services, governments often endeavor to meet efficiency and equity criteria. Taxes must be easy to collect and simple to administer. Taxation must also be progressive, where marginal tax rates increase as incomes increase. One rationale is that the rich would lose more if a foreign invader takes over or if internal peace breaks down. The rich should thus pay more in taxes given the potentially huge losses to property they stand to incur.

Ideally, a country's tax system must have both horizontal equity, where similarly situated taxpayers share the burden of the tax equally, and vertical equity, where higher-income individuals pay more in taxes. Tax measures aimed at financing infrastructure projects appeal to the public if they adhere to these equity criteria; if not, tax resistance kicks in and the tax measures are unlikely to deliver the expected revenues, posing an impediment to infrastructure development.

Tax administration, one should note, is also tax policy. If the tax collection machinery is inefficient in the sense that both direct and deadweight losses exceed the cost of collecting a unit of tax revenue, then relying on taxes to fund projects, dilutes the benefits that government spending can generate. Jean-Jacques Laffont (1994), for instance, cites such a case for the Philippines, based on World Bank Figures, where the marginal cost of raising a peso unit of tax money is P2.48, coming largely from deadweight losses. Such is an ineffective tax policy that breaches both efficiency and equity considerations and must not be allowed to persist.

In the effective delivery of public goods, another important dimension of good governance is a legal and judicial system conducive to contractual performance, and adjudication in a fair and timely manner whenever contractual disputes emerge. The setting up of a credible legal system hinges on many factors and is high cost, such as, the presence of incorruptible and well-paid judges, and highly trained lawyers to staff the courts and the prosecution, plus equally incorruptible and well-paid police to serve and enforce court orders (see Richard Posner 1998).

3.3. Contract risk and uncertainty

Contracts govern all market exchanges, whether implicit or explicit. In countries where trust is prevalent, many contracts are implicit. Procurement contracts with government are generally explicit. Once the government calls for bids to a public infrastructure project, a long elaborate process is triggered. In the Philippines, the steps are spelled out in the provisions of the general procurement reform law. There is, for instance, a prequalification of bidders before actual bidding is conducted. There is a review process before the winner is announced and served a notice to proceed. In the final stage comes the contract negotiation and signing.

Procurement of public infrastructure is governed by written contracts that stipulate the rights and obligations of the contracting parties. Contracts are incomplete because of limited information at the time of writing. Contract re-openers are thus provided for in any contract. Information is not only limited; it is also not equally distributed. The private proponent of an infrastructure project, for instance, is better informed than the government about the technology involved. The government is also not privy to the production cost of the proponent. This generally results in government regulation of pricing and the stipulation, such as in the case of water, of a periodic rate-rebasing exercise.

Under limited and asymmetric information, both parties face risk and uncertainty in the course of implementing the project being procured. The proper allocation of risk bearing is negotiated and spelled out in the contract for uninsurable risks. There are provisions in the contract that spell out payments and fees contingent on the occurrence of some specific well-defined states of nature.

PPP contracts for infrastructure projects generally have provisions for arbitration in case contractual disputes emerge. A weak legal framework often drives a private proponent to insist on this. The Philippines is quite notorious for chronic court delays in cases involving contractual disputes, thereby raising project costs. As a result, the private sector and the IA, whether in the national government or in an LGU, would agree to put arbitration in the contract. There are special arbitration bodies in Singapore and Washington, D.C. that are internationally accepted by the contracting parties. Each party in the dispute nominates a judge to sit in the arbitration panel. Although the parties reserve the right to appeal in an appellate court, this is rarely resorted to in other countries since the courts tend to respect decisions handed down in arbitral bodies.

The prevalence of judicial risk is widely observed in the Philippines, and so both parties agree that arbitration by an independent body is a sound institutional arrangement to allocate the bearing of judicial risk. Even if arbitration tends to be costly, the parties in dispute tend to believe that the shared cost is worth paying. Hence, PPP contracts typically feature an arbitration provision.

In 2019, executive risk reared its troubling head. As narrated earlier, Pres. Duterte threatened to cancel the concession agreement of two private water concessionaires (Manila Water and Maynilad), contracts that had been in force since 1997. The results of the arbitration on issues relating to water price adjustments and recoverability of corporate income taxes, which favored the private concessionaires, angered the Philippine President. He subsequently ordered a review of the contracts, which he called onerous, and asked the concessionaires to sign a revised contract drafted by the Secretary of Justice. In response, several individuals and groups voiced their opposition to the government's position, citing its negative impact on future investments. This is the pitfall of executive risk: For as long as threats continue, the principle of "sanctity of contract" is imperiled. In consequence, PPP projects are unlikely to be forthcoming. Moreover, the contractual dispute initiated by the current leadership has only served to weaken the country's legal framework.

Similarly, in an earlier case, former President Gloria Macapagal-Arroyo brought the Terminal 3 project of the Manila International Airport Administration (MIAA) with a private consortium from the Philippines and Germany to the Philippine Supreme Court (SC) and sought that the project be declared null and void, claiming the terms were onerous. The Terminal 3 project was the first BOT unsolicited proposal of the government with the Department of the Transportation and Communication (DOTC) as IA. The processing of this project spanned three administrations, those of former Presidents Ramos, Estrada, and finally, Macapagal-Arroyo. The government won the case, but SC ordered the government to pay the consortium an amount commensurate to the value of the project accomplished plus interest-rate penalties. It was a huge amount running to several billion pesos, as the Terminal 3 project was practically finished when it was voided. The Philippine government succeeded in voiding the contract, but it did not win points from foreign investors, particularly from Germany.

In case contractual disputes emerge, the legal system in place must possess integrity so that fair and timely adjudication is undertaken, and decisions are convincing and credible. Summing up, the overall legal framework for development must be incorruptible, fair, and credible. Setting such a framework is a legitimate function of the national government.

In this context, the challenge confronting LGUs planning for PPP projects are obvious. For one, they must raise their legal and technical capacity. They must recruit well-trained lawyers who are skilled in contract writing and sufficiently familiar with laws governing procurement of infrastructure projects. Asymmetric information prevails in this situation. Private proponents, no doubt, are better informed than LGUs. Generally, the private party is adequately financed and can hire expert lawyers skilled in contract writing and negotiations. Hence, LGUs need the support of the national government in addressing legal concerns to be able to level the playing field during negotiations over PPP contracts.

LGUs must also be aware of the role of banks and other creditors during contract writing. The private proponent comes to the negotiating table with a high debt-equity ratio (around 70:30 usually, or even 75:25 as allowed by the PPP law). As a result, creditors eagerly watch the allocation of risk bearing. If they believe that the private proponent is shouldering a disproportionately large share of the risk, there

will be no financial closure. The expectation of the creditors is that the rate of return to private capital is sufficient to service the debt; otherwise, the project will not be implemented.

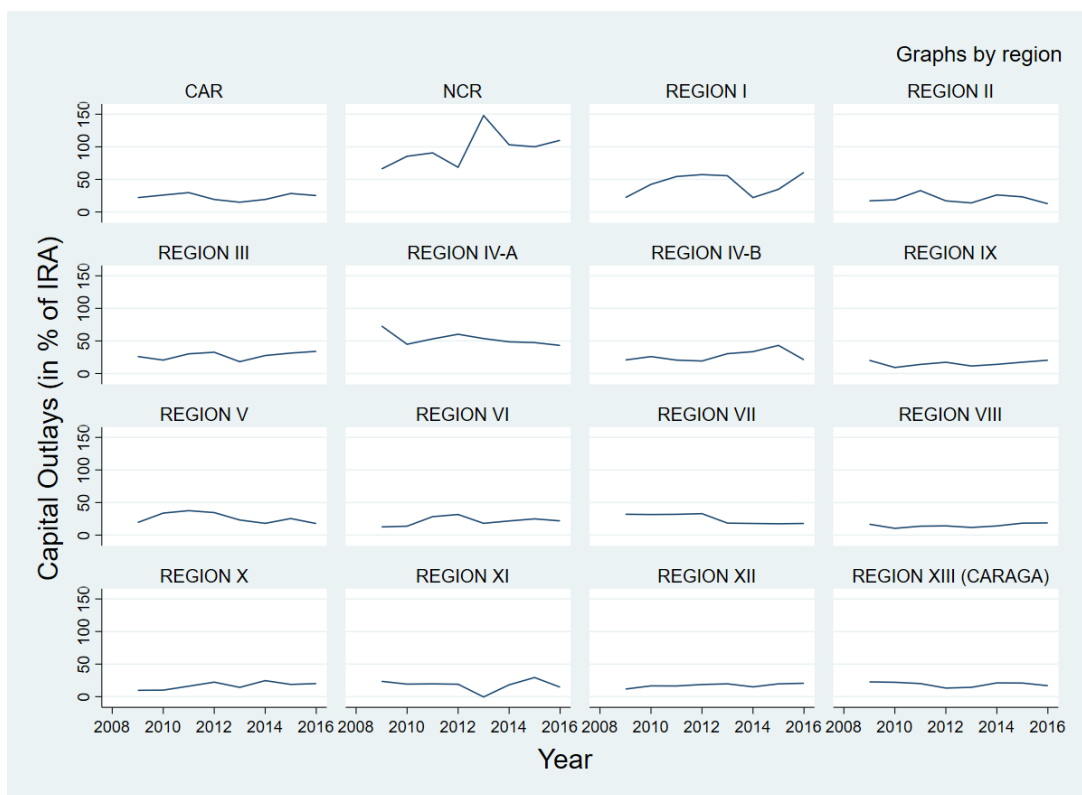
Once the contract is signed, LGUs must develop expertise in arbitration. This is a high-cost activity carried out in international venues. Access to legal counsels with experience in international arbitration must be facilitated with the help of the national government.

4. FINANCING CONSTRAINTS

LGUs are allowed to implement public infrastructure facilities under PPP, but many of them are liquidity constrained. The formula for the IRA redistribution of the national government favors first-class municipalities and cities, endowing the latter with sufficient funds to procure major infrastructure projects. The less-endowed LGUs, meanwhile, are starved of funds.

Specifically, a fifth of the IRA is earmarked for capital investment projects provided local officials are able to put together an acceptable investment plan. Figure below using data from the Bureau of Local Government Finance indicates that the transfers from national government have been the main source of funding for their capital outlays. Only those local governments in the more developed regions such as NCR and surrounding areas seemingly have the capacity to generate their own funds for capital improvement.

Apart from this, LGUS also face credit-market imperfections such as the absence of markets for long-term loans to infrastructure projects. To enable cash-strapped LGUs to carry out major infrastructure projects, some creative financing mechanisms involving loans and grants are needed to help overcome funding constraints.



Source: Bureau of Local Government Finance, Department of Finance, Philippines.

4.1. Block Grants

An undesirable outcome from a heavy reliance on market allocation is the absence or lack of distributive justice in market outcomes. This limitation typically triggers government intervention to assist low-income LGUs. Infrastructure projects that are geared to helping impoverished LGUs include flood control, disaster prevention and mitigation, reforestation, climate-change adaptation and mitigation, and solid-waste management—mostly high-cost capital projects that are beyond the capacity of impoverished LGUs to procure.

Lower-class jurisdictions commonly host large poor communities located in unsafe and unsanitary residences and workplaces. The Philippines is a disaster-prone country, and so the national government accords high priority to projects geared to protection against and resiliency amid natural disasters. If costs and benefits are cross jurisdictional, there is a tendency for stakeholders to free ride. The needed infrastructure facilities would therefore not be built under these conditions. If so, the poor, such as small landless farmers and artisanal fishermen, would be vulnerable and bear a disproportionately large share of the burden once disaster strikes since they generally live and work in hazardous places.

In pursuit of distributive justice, the government steps in and implements a system of block grants whereby the poorest LGUs get sufficiently large income transfers from the national government to help them procure sustainable, in the environmental sense, infrastructure projects. Standards are set for project quality and a monitoring and evaluation (M&E) system is installed to ensure that LGUs do not cut corners during implementation. To ensure social acceptability, LGU procurement systems must be credible, which can be achieved by adhering to existing rules and procedures of GPPB aimed at curbing

corruption. Integrity programs in government procurement are vital. Corruption must be extirpated so that taxpayers are encouraged to support block grants.

To finance such grants, the national government may also tap loans from bilateral and multilateral agencies in charge of official development assistance (ODA). These are loans, however, and to be able to service them, the national government still must have an efficient tax system in place, as it must generate fund surpluses to support debt servicing.

To save on transaction costs, ODA donors do not deal directly with LGUs. At the most fundamental level, these donors have no idea about the risk ratings of many LGUs. Instead, the national government borrows from the foreign donors and relends to eligible LGUs willing to implement programs and projects. LGUs with good borrowing records can tap into these relending credit facilities. To reach a wide geographical area, the DOF, which is the loan signatory with ODA partners, enlists rural banks and small development banks in retailing the ODA loans.

Tapping ODA loans carries additional benefits from the conditionality practices of the multilateral and bilateral agencies. ODA donors not only extend capital assistance but also grant-financed technical assistance in various stages of the project cycle, adopting best-practice techniques in project management during implementation. ODA donors tend to have access to a large pool of experts in disaster management and other development projects in conflict-affected countries.

Government financial institutions, namely, the Development Bank of the Philippines (DBP) and the Land Bank of the Philippines (LBP) are enlisted to open relending facilities to both poor and rich LGUs for their infrastructure projects. To get the process going, the national government taps ODA loans that the DBP and the LBP can then relend. The DBP and LBP retail the loan, tapping rural and small development banks for this purpose. In this regard, the national government, through the DBP and LBP, must continue the work that started several years ago on generating information about the borrowing capacity and risk of default of LGUs. Relending ODA loans is not new and, at this point, offers several useful lessons accumulated over time.

In this regard, one possible structural reform is the creation of a large development bank via the merger of the LBP and the DBP. This special-purpose financial institution may lend more efficiently, for example, to credit-rationed LGUs. Under the merged bank, which would be better capitalized, the national government can tap the ODA loans that can be relent to LGUs as before, using as conduits private rural banks and small development banks.

In addition to concessional loans, LGUs may be able to provide limited counterpart funding by allocating part of their IRA to the government project. To the extent possible, they may levy new taxes, which they are authorized to impose under the LGC.

4.2. User Fees and Private Provision

For some major capital projects, it is possible to impose user fees. Moreover, the technology exists so that individuals not willing to pay the user fee can be excluded from availing of the infrastructure services. Pricing and excludability open up the possibility of private provision of public goods and services. Water supply and sewerage, electricity, and irrigation are illustrative.

If the financial rate of return (FRR) of the project exceeds the WACC of the service provider, then the project can be privately provided, say through, a BOT scheme. The BOT law and its amended version, which permits unsolicited proposals under certain conditions, is the legal framework for either private provision or PPP.

Private participation in infrastructure projects not only eases the budget constraint of the government, but it also permits the introduction of advanced technologies and managerial techniques, areas where the private sector has comparative advantage.

The government typically regulates pricing and rates of returns of utilities run by private concessionaires like water supply and electricity. Usually, return-on-rate-base (RORB) type of regulation is applied to the providers of services from these utilities. The two private concessionaires operating the franchise of the MWSS in Metro Manila are, as we have indicated, governed by RORB. Despite some financial, technical, and legal issues that have intervened in the past, the privatization of water and sewerage services in the MWSS franchise area may be deemed successful in the overall. The mode of implementation may thus be replicated in other major urban centers of the country, while being conscious of the lessons learned from the MWSS experience.

In short, there are helpful lessons from the country's experience with the CA on water in Metro Manila and also with the Electric Power Industry Restructuring Act (EPIRA) in the case of electricity. These lessons can be brought to bear on similar projects going forward. User fees can also be imposed for the use of, say, irrigation facilities. To be successful, the pricing mechanism in all projects as well as the related policy and institutional reforms need to be reiterated and made to hold over a long period of time across a succession of political administrations.

First-class cities and other major urban centers are strong candidates for hosting projects that rely on user fees. Cities are centers of interrelated economic, business, and social activities. They have evolved over time and hold comparative advantage over other jurisdictions in providing a variety of public goods and services. Cities are properly positioned for private provision of infrastructure facilities, including unsolicited BOT projects. Outside Luzon, some possibilities are Metro Cebu in the Visayas and Metro Davao in Mindanao.

4.3. Hybrid Model

In view of the fact that LGUs are heterogeneous by income and capacity to manage development projects, either pure block grants or user fees may not be applicable in some cases. A mix of financing may be indicated for LGUs undertaking infrastructure projects, entailing a hybrid model that combines user fees, loans, and grants.

An airport project, for instance, lends itself to such a hybrid model. The runway may be funded by a block grant from the government at both levels. If the cost of a runway is included in the full-cost-recovery scheme for the airport, the result is prohibitive user fees. The terminal is the project component that can be subjected to marginal-cost pricing.

Similarly, a rail project may be implemented with a block grant for the civil works, as well as for the traffic signaling and safety devices. If private providers incorporate these costs, fares are bound to be exorbitant. The trains or rolling stocks lend themselves to marginal-cost pricing.

In any case, the Investment Coordination Committee (ICC) of the NEDA Board is the appropriate inter-agency committee of the national government for designing the policy and implementation scheme of such hybrid models.

5. Regulation in the Water Sector

The mode used in privatizing water supply projects in MWSS can serve as a template for similar endeavors in LGUs. The water franchise in a given jurisdiction owned by a government corporation or water district can be opened to competitive bidding among qualified private enterprises. Post bidding, once the notice-to-proceed is issued, contract negotiation with the winner commences.

From a technological standpoint, one firm can supply the whole water needs of the whole franchise area, and the venture becomes a natural monopoly. Production is subject to decreasing average cost over a large output. Marginal cost pricing and competition by several small firms is thus not feasible. As a result, a government body may need to step in to regulate water pricing.

Sometimes the franchise area may be large enough to support two firms in the industry. This was the case in the franchise area of MWSS. As a result, two concessionaires—Maynilad and Manila Water—were designated in 1997, the year the privatization of the MWSS water franchise took place. This is regulation by duopoly. One benefit from this two-firm regulation is the opportunity of the government to cross-check water pricing, which is regulated by the MWSS Regulatory Office to avoid prohibitive prices and protect consumer welfare.

The regulatory body caps the allowed return of the private concessionaires. The regulator allows each concessionaire to earn revenues sufficient to cover operating costs, depreciation, taxes, and other spending legally allowed to be recovered. The earned revenue plus information on projected demand and billed water volume are used to determine whether water prices should be adjusted. To get the right price, the expected future cash flows of the concessionaire are discounted using essentially a market-based WACC, which the concession agreement refers to as the appropriate discount rate (ADR). If the present value of this stream of revenues is not enough to recover the allowed spending, pressure to raise water prices increases; otherwise, the pressure to lower water prices increases.

The government and the private concessionaire have differing objectives. The government has a social agenda, with the interest of the public as its top priority. The concessionaire may share the same social agenda, but it also has a profit motive. It seeks a fair and reasonable rate of return to make its private investors happy, allowing investments in the water project to continue. The concessionaire does not get any subsidy from the government. It can only charge user fees. Its pricing must be right so that it earns a just and reasonable rate of return.

The ADR represents the opportunity cost of capital invested in the project. The framework used to compute for this return considers a standard form of the Capital Asset Pricing Model (CAPM). An effort is made to meticulously consider the amount of risk involved in computing for returns from equity and debt. A beta factor derived from equities of comparable firms is adopted to get the cost of equity, while a debt premium is estimated to get the cost of debt. With the Philippines already tightly integrated with the global financial market, data obtained from US equity and debt markets are used in estimating the average returns. Returns using particularly the S&P 500 are put to use, along with returns from US Treasury bills and bonds. Data from international financial markets are deemed relevant in estimating a fair and reasonable return to investment.

There is a possible weakness to the approach, however. The beta factor derived from global financial markets that is used to adjust for the riskiness of equity in estimating returns may no longer be fully appropriate from an empirical, i.e., econometric standpoint. Fama and French (1992) have long presented empirical evidence against the CAPM and its prediction of efficient markets, stating that the estimated beta, as commonly estimated, should not be used as the sole variable for explaining stock returns (see also Fama 2017). As such, alternatives or improvements in estimating equity-risk premium may have to be re-assessed, especially when considering water projects of LGUs located outside of the capital region, in much less developed areas.

Privatized water project contracts involve periodic rate-rebasing exercises to determine possible adjustments in water pricing. It is widely accepted that estimating proper returns to capital ensures that investment in the project continues across time. For the MWSS concession agreement, rate rebasing is done every five years. Rate rebasing is mandated, as the production cost of the concessionaire is unknown to regulators and may only be revealed during the exercise.

LGUs with PPP water projects similarly need to have the capacity to tackle rate rebasing. Water prices must be affordable. In formulating water prices, lifeline or subsidized rates to poor households are to be expected. Understanding the links between water prices and rate of return to capital is essential. The LGUs aiming to procure water projects using PPP need to build the capacity to handle rate-rebasing exercises. The tasks open up several legal, technical, and financial issues. The challenge to LGUs is to build expertise in each area.

6. Concluding Remarks

This chapter has opened up a study of infrastructure development in a decentralized government setting. It is motivated by the widely observed links between infrastructure, a major part of public capital, and economic growth. Much of the government spending on infrastructure facilities complements private inputs to production, resulting in the growth of output and employment. Given a tight budget constraint, LGUs can adopt PPP as a mode of implementing eligible infrastructure projects.

LGUs are authorized by law to undertake infrastructure projects in their respective jurisdictions. Faced with legal, financial, and technical constraints, LGUs need support from the national government, particularly, in tapping financial markets to address their infrastructure gaps.

This chapter has focused on the major constraints that LGUs face in closing the infrastructure gaps in their jurisdictions. Of great interest are the underlying human resources, financing, and governance constraints, all of which are severe for LGUs, bar possibly first-class cities and provinces. Unless the national government is able to assist lower-class municipalities and cities, which host several poor families, the goal of inclusive growth enunciated in the Philippine Development Plan (PDP) will remain elusive.

Highly skilled staffs are vital for project development, the first step in the project cycle. Familiarity with cost-benefit analysis is essential since it accompanies project submission to the ICC. Infrastructure projects of LGUs are high cost. LGUs must have access to a financing mix that includes grants and loans backed by national and local taxes. PPP is an option to enable LGUs to tap private financing.

PPP turns on a number of issues in governance. Since PPP projects are governed by explicit contracts, expertise in the legal, technical, and financial aspects of procuring public infrastructure projects

is important. Contract writing and negotiating call for highly skilled, well-paid lawyers and finance personnel. In case contractual disputes emerge, these staffs must be able to navigate the arbitration and many aspects of dispute-settlement procedures.

Fair allocation of risk bearing is a major aspect of contract negotiation. Bank creditors are key players in this regard. Projects with debt-equity ratio of, for instance, 70:30 invite serious review from bank creditors. Unless the latter are satisfied with the risk-bearing provision, the proponents of the project will not get financial closure.

Water pricing generally requires regulation. The latter is a legitimate function of both national and sub-national government units wherein LGUs also require capacity building and dedicated independent institutions. Familiarity with various forms of regulation is useful. As we have seen, regulators can allow concessionaires to earn revenues sufficient to cover operating costs, depreciation, and legally recoverable taxes, plus normal profits allowed by public-service law. As experience has shown, however, direct taxes such as corporate income taxes may be more contentious (than say indirect taxes). Given the difficulty of estimating the appropriate return to investors (i.e., the ADR), LGUs must also build technical capacity to build, or at least navigate, new models that must be developed on measuring the equity-risk premium.

To address the challenges that LGUs face in closing their infrastructure gaps, they need both grant and loan assistance for specific projects from the national government on top of what they get in the form of transfers via the IRA. National government guarantees may also be extended. Water projects are illustrative. To justify government support, a water system that adheres to predetermined standards creates positive externalities for other jurisdictions insofar that they reduce, for example, the incidence of communicable water-borne diseases.

This chapter has focused on water projects to illustrate the challenges that LGUS face in infrastructure development using PPP. Other eligible projects that the national government has devolved to LGUs include solid-waste management, reforestation, and climate-change mitigation. ODA donors are supportive of these projects with grants and loans since they are regarded as international public goods, which create benefits on a global scale.

Many poor families live as illegal settlers either in the cities or in the suburbs. The poor settle in urban slum communities, and in the rural areas, in riverbanks that are vulnerable to flooding and other forms of natural disasters. The poor are also vulnerable to communicable diseases. Decentralized infrastructure development that responds to their unique situation can go the distance in improving their living standards and reducing the risks they face in their residences and workplaces. In the context of pandemic outbreaks, designs for high-density residential and work areas must be overhauled to minimize spread of the offending virus.

REFERENCES

- Abiad, Abdul, Margarita Debuque-Gonzales, and Andrea Sy (2018), "The Evolution and Impact of Infrastructure in Middle-Income Countries: Anything Special," *Emerging Markets, Finance, and Trade*, 54 (6), 1239-1263, Taylor and Francis.
- Barro, Robert and Xavier Sala-i-Martin (1989), *Economic Growth*, New York: McGraw-Hill, Inc.
- Baron, David (1989), "Design of Regulatory Mechanisms and Institutions," in *Handbook of Industrial Organization*, Vol. II, edited by R. Schmalensee and R. Willig, Elsevier.
- Bardhan, Pranab and Dilip Mookherjee (2006), "Decentralization and Accountability in Infrastructure Delivery in Developing Countries," *Economic Journal*, Vol. 116, 101-127.
- Berndt, Ernst and Bengt Hansson (1991), "Measuring the Contribution of Public Infrastructure Capital in Sweden," Working Paper No. 3842, NBER Cambridge, Mass.
- Canlas, Dante B. (2019), "Appropriate Discount Rate and Economic Assumptions," Final report submitted to Test Consultants in connection with the Fourth Rebasings commissioned by the MWSS Regulatory Office, Diliman, Q.C.
- _____ (1995), "Private Supply of Private Goods: Some Considerations from the Economics of Regulation and Incentives for the Philippine Transport Sector," Paper presented at a round-table discussion held at EDSA Shangri-La Hotel with visiting senior officials from the World Bank, Wash., D.C.
- _____ (2003), "Economic Growth in the Philippines: Theory and Evidence," *Journal of Asian Economics*, Vol. 14, 759-769.
- _____ and Karl Jandoc (2019), "Development of the Philippine Upstream Indigenous Natural Gas Industry," Final report submitted to Shell Exploration, Phil., Metro Manila.
- Castillo, Czar, Ramon Clarete, Marjorie Mayrong, and Philip Tuano (2019), "Impacts of TRAIN Fuel Taxes on Employment and Poverty," PIDS Policy Notes, Philippine Institute for Development Studies, Metro Manila.
- _____, _____, _____, & _____ (2019), "Effects of TRAIN Fuel Taxes on Goods and Prices," PIDS Policy Notes, PIDS, metro Manila.
- Debuque-Gonzales, Margarita (forthcoming, 2020), "Local Fiscal Multipliers and Spillover Effects: Evidence from Philippine Regions," *Economic Systems*.
- Fama, Eugene (2017), "Finance at the University of Chicago," *Journal of Political Economy*, Vol. 125, 1476-1485.
- Jamison, Mark (2005), "Rate-of-Return Regulation," Public Utility in Research Center, University of Florida in Gainesville; forthcoming in *Encyclopedia of Energy Engineering and Technology*.
- Laffont, Jean-Jacques (1994), "Regulation, Privatization and Incentives in Developing Countries," Paper presented at the Third ADB Conference on Development Economics, ADB, Manila, Phil.

Posner, Richard (1994), "Creating a Legal Framework for Economic Development," World Bank Research Observer, Vol. 13, 1-12.

Robichek, Alexander (1978), "Regulation and Modern Finance Theory," Journal of Finance, Vol. 33, 693-705.