4. Accountability and Risk Management

What are Accountability and Risk Management, and how are they connected?

Accountability is a set of institutional tools which reward organizations that consistently perform well for their stakeholders (and penalize those that perform badly).

Risk-management is a set of institutional tools which endeavor to make risks and rewards commensurate with each other, in order to drive good performance.

In infrastructure services, multiple actors interact. How they hold each other accountable – what we call the “push and pull” of accountability - is intimately related to how they share rewards and risk with each other.

In Chapter 3 we looked at how strategic vision is formulated, and traced some of the paths through which vision connects through service delivery to outcomes. In this chapter our perspective is different. We leave strategic vision behind, and try to understand what happens at the level at which services are delivered, and outcomes achieved.

Service delivery and outcomes reflect vision (or lack of it). But they are delivered by people, groups and institutions with incentives and objectives, to other people and groups with incentives and objectives of their own. How do we make sense of the interactions between these actors, and what is it about these interactions that lead to good or bad infrastructure outcomes?

In this chapter we look at this question in terms of two-interlinked concepts: accountability and risk management. Think of the multiple actors to which we referred – governments, communities, investors, service providers, NGOs – engaged with each other in dynamic tension, each with their own goals, each with their own expectations of the other actors, each trying to hold the others accountable for delivery against those expectations. This we call the “push and pull of accountability”.

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81 This is not to say that accountability and risk management only operate at this level. For instance, society’s leaders are also held accountable (or fail to be held accountable) for the practical relevance of their strategic vision through their country’s national political institutions. Their strategic decisions are deeply determined by avoidance of risk, and desire for reward.
And as each actor pushes or pulls, they seek to maximize their rewards and minimize their risks, subject to the constraint that everyone else is doing the same thing. This is what we mean by “risk-management”. In this chapter we look at the institutions that help balance competing claims, to try and make risks commensurate with rewards. Accountability lubricates that balancing process and helps make development inclusive; lack of accountability means sharp imbalances between stakeholders, unpredictability, and instability.

As in previous chapters, we will look at our theme from a number of angles. We start by considering three available mechanisms through which service provision can be made accountable, to both consumers and tax payers: The first is through community participation. The second is through competition. The third is through regulation. In the second part of this chapter, we turn our attention to the risk and accountability issues that arise specifically when governments provide support to service providers – through subsidies and other forms of fiscal support - and how they can be managed.

But before addressing these issues, let’s consider what happens when accountability relationships and risk management do not do what they’re meant to do.

**When accountability and risk management fail**

Accountability and risk management are often most recognizable when they are absent. In its most dramatic form, the outcome of poorly functioning accountability and risk-management frameworks takes the form of financial collapse, as one or other stakeholder is shouldered with obligations that they cannot bear.

Poorly structured infrastructure concessions are part of the story of Asia’s financial instability in the late 1990s (see, for example, Box 3.5 on Indonesia in chapter 3). And they continue to be a source of important macro, fiscal and financial fragility in a number of countries – we saw this in Vietnamese and Chinese cases in chapter 3, Boxes 3.1 and 3.7.

But the most pervasive outcome of poorly functioning accountability systems is corruption. And while the sources of corruption are many and various, there are a number of peculiarities in the infrastructure sectors that make them a frequent target.

In chapter 2 we saw that infrastructure tends to be capital intensive, that it is often lumpy, long-lasting and space-specific, and that it may run most efficiently at large scale. As a result, it is often provided by monopolies, and can generate large rents. We saw too that infrastructure provides vital services, which people and firms prize highly, and to which politicians assign strategic importance.

And so, infrastructure often involves political protection, and intervention. Financial discipline can be weak because of a lack of competition in the market, or the knowledge that politicians will guarantee service provision without disruption. If monopoly profits are earned, this can attract rent-seekers; if the services are underpriced through heavy regulation of monopoly power, then rents can be earned from allocating the scarce services. The close association of politics and infrastructure can cement those arrangements in place.
The absence of financial discipline may provide cover for the kinds of practices through which corruption thrives. For example, many utilities in East Asia tend to be overstaffed and employees paid more than the going rate in the market. Inefficiency, patronage, and corruption are not the same thing, but the lines between them may be fine, and often crossed. In the Philippines, for instance, rural electric cooperative employ on average twice as many staff per customer as comparable privately owned firms. Elected cooperative Board members are frequently accused of dispensing jobs to favored groups or individuals.

Box 4.1. Corruption in infrastructure in the Philippines

Detailed information on corruption in infrastructure – as in any activity – is difficult to obtain, and is always likely to be anecdotal, given its intrinsically covert nature. But a number of studies in the Philippines provide some scope of the problem.

One study on governance issues in public service delivery estimated that the misuse of resources in public works was between 20 percent and 40 percent (Afzar et al, 2000). The study noted that on certain procurement and infrastructure projects, regional directors of central agencies are said to receive a 10 percent commission, and Department of Budget and Management officers, 15 percent.

A more recent study lends support to this view, finding that infrastructure projects selected by local development councils, but actually built by the Department of Public Works and Highways or other central agencies, triggered multiple bribes and unofficial payments at each layer of government involvement (World Bank, 2005c).

With a lumpy, long-term infrastructure asset it is often not easy to discern the relationship between the level of capital investment and flow of infrastructure services. For instance, the thickness of a road will ultimately affect the level of required maintenance, but in the short run will make little difference to the throughput capacity of a road project. This means that, without strong controls, infrastructure providers can both inflate the levels of capital spending needed, and hide the effects of actual under-investment. Competition for the market can help hold the provider accountable, but those making the procurement decision need to be accountable also.

And last but not least, the large size of many types of infrastructure creates opportunities for large kickbacks associated with its procurement. The added fact that infrastructure’s benefits are complex means they are hard to measure: it is easy to claim the virtue of new investments. New assets can be favored over better management of those already in place. Corruption can thrive in that environment. (See Box 4.1)
It is hard to judge whether corruption in Indonesia has worsened or improved since the fall of the New Order Regime and decentralization reforms. But corruption still features high among popular and investor concerns, and poses considerable obstacles to future infrastructure programs in Indonesia.

Opportunity for corruption arises at most stages of Indonesia’s infrastructure project cycle – project identification, contract award and negotiation, as well as financing and implementation – while weaknesses in public finance management as a whole blur accountability across government.

In project identification, public sector corruption has been most common in the design of projects that entail SOE and government procurement of highly specialized products, usually from abroad. Here, collusion takes place between local agents and suppliers, with deals struck at marked-up prices, and narrow bid specifications precluding competition.

There are some indications, however, that this is on the wane, with increased exposure to competition, through privatization or capital market discipline, and as the Ministry of Finance implements SOE performance audits.

In the private sector, unsolicited bids are the most important source of corruption. During the Soeharto era, the political connections of a local partner, or financial pay-offs would often ensure quick project approval, without due attention to the merits of projects. And many formal review processes, where they existed, were ignored.

Public procurement is a further considerable source of corruption, with estimates of up to 30 percent of the approximately US$7 billion in annually procured goods and services lost to corruption.

Most corruption in procurement is related to the design of bid specifications, bid invitation, selection and negotiation. Commonly employed practices include restrictive bid specifications to tailor bids to particular manufacturers’ products; restricting eligible bidders; and fixing the evaluation process.

Most recent public procurement regulations, set out in 2003, are an improvement on previous decrees. They establish an Institution for Development of Public Procurement Policy, require procurement certification for bid committees, remove pre-qualification for contracts below US$6 million, and introduce ‘integrity pacts’ for suppliers and contractors.

But they remain weak in several respects. The government still needs to work out many unresolved details to ensure proper implementation and enforcement. And additional regulations are also needed to promote the transparent selection of private partners for private infrastructure projects.

Finally, corruption in implementation is also common, and usually involves under-supplying on quantity and quality. While such practices should be detected in supervision, in practice they are not, due to frequent collusion between project managers, contractors and supervisors.

But the problem is not only procurement itself. At a more general level, poor budget formulation gives rise to risk of duplication of spending, and diversion of funds to unintended purposes. Budgets themselves are systematically under-funded, budget procedures are unpredictable, financial controls weak and auditing is ineffective. In this environment, government agencies are implicitly expected to find other means of meeting their needs, blurring the line between public and private expenditures and encouraging rent-seeking behavior.

In this respect, the new State Finance Law creates an opening for reforms. Accountability can be improved by strengthening parliamentary oversight, equipping the Supreme Audit Agency to do its job properly, and holding State Treasurers responsible for handling public money. A further key medium-term reform will be a complete overhaul of public spending over a five-year period, providing adequate funding for all key activities, and eliminating off-budget sources of funds.

Mechanisms to strengthen accountability

So how do mechanisms of accountability help prevent these kinds of outcomes and ensure that risks are equitably allocated? In the next part of this chapter we focus on three important aspects of this question: the role of communities, of competition, and of regulation.

Communities for accountability

We saw in Chapter 2 how infrastructure can reach out to communities, particularly to the poor, and help them manage the risk in their lives. Local roads, irrigation, safe and reliable drinking water can make an enormous difference to the development prospects of communities. Accessing markets, raising crop yields, and avoiding water-borne disease can both raise and stabilize the incomes of the vulnerable and poor. This is infrastructure for “protective security”, one of Amartya Sen’s “five freedoms”.82

But how to make sure that infrastructure provision answers to the real needs of communities? For some types of infrastructure service, the best way to ensure this accountability is to empower the communities to manage their own infrastructure. Indonesia’s Kecamatan Development Project, highlighted in Chapter 3, Box 3.6, is among the largest and best known in East Asia. But community participation in infrastructure is now increasingly common across the region – from China to Lao PDR, the Philippines to Cambodia.

For many governments, and most of the international development community, it has been a long hard road to arrive at this realization: Local people often know more than enough about their priorities and possible solutions, but may just need resources and external catalysts to unlock their energies. Local people have more incentive to maintain assets that they choose and maybe even build themselves, and more reason to watch out for corruption. (See Box 4.2)

Sometimes NGOs can be more effective as external catalysts of local energies than governments (or large-scale donors) can. More traditional, top-down approaches to infrastructure service provision have often been unresponsive to needs at the community level.

An NGO perception survey undertaken for this study suggests that greater provision of information to communities, greater involvement of local government and community-based organizations, and more public participation in decision making, are key concerns in an otherwise broadly optimistic outlook (See Box 4.3).

82 Sen (1999).
Box 4.3: Infrastructure, accountability and NGO perceptions: Survey results

In fall, 2004 132 representatives from NGOs in six East Asian countries participated in a survey to measure their perceptions of infrastructure development in the East Asia & Pacific region*. The data show that NGOs in these countries are quite optimistic, overall, about the direction of infrastructure development (72 percent of the sample said they were optimistic), but those surveyed believe that more should be done to engender better infrastructure development on the ground. For example:

**Accountability as an Obstacle**

<table>
<thead>
<tr>
<th>Lack of accountability of NGOs</th>
<th>Lack of accountability of private sector</th>
<th>Lack of accountability of governments</th>
</tr>
</thead>
<tbody>
<tr>
<td>14%</td>
<td>24%</td>
<td>14%</td>
</tr>
<tr>
<td>86%</td>
<td>77%</td>
<td>57%</td>
</tr>
</tbody>
</table>

**Corruption**

<table>
<thead>
<tr>
<th>The extent to which corruption is an obstacle</th>
<th>The extent to which the potential for corruption should be taken into account</th>
<th>When it comes to infrastructure development, government does not do enough to prevent corruption</th>
</tr>
</thead>
<tbody>
<tr>
<td>95%</td>
<td>91%</td>
<td>23%</td>
</tr>
</tbody>
</table>

**Level of Stakeholder involvement**

<table>
<thead>
<tr>
<th>Official Agencies</th>
<th>NGO's</th>
<th>Community-based Organizations</th>
<th>International Private Sector</th>
<th>Local Private Sector</th>
<th>Local Government</th>
<th>Central/ National Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>31%</td>
<td>21%</td>
<td>9%</td>
<td>31%</td>
<td>20%</td>
<td>3%</td>
<td>24%</td>
</tr>
<tr>
<td>37%</td>
<td>21%</td>
<td>21%</td>
<td>25%</td>
<td>34%</td>
<td>19%</td>
<td>29%</td>
</tr>
<tr>
<td>33%</td>
<td>59%</td>
<td>71%</td>
<td>44%</td>
<td>46%</td>
<td>72%</td>
<td>47%</td>
</tr>
</tbody>
</table>

**Information**

<table>
<thead>
<tr>
<th>The communities most affected by infrastructure development generally have enough information about projects to make educated decisions related to trade-offs</th>
</tr>
</thead>
<tbody>
<tr>
<td>68%</td>
</tr>
</tbody>
</table>

**Public participation**

<table>
<thead>
<tr>
<th>The extent to which inadequate public participation in decision making is an obstacle</th>
</tr>
</thead>
<tbody>
<tr>
<td>14%</td>
</tr>
</tbody>
</table>

* Survey conducted by local, independent research firms in China, Indonesia, Japan, Philippines, Thailand and Vietnam. Respondents were randomly chosen from lists provided by a number of sources including the Australian Council for International Development, ADB, Bank Information Centre, JBIC, and the World Bank.
Clearly community empowerment works best when infrastructure is small-scale, and can be within the control of a single community. Small town water supply systems are often ideal candidates for local community management, as one survey from Vietnam suggests (van de Berg 2002). But in the case of large infrastructure, complexity and sheer scale can make direct community management and self-accountability infeasible.

This obviously does not preclude community participation in aspects of infrastructure that directly affect their lives. The role that communities played in Japan in responding to environmental externalities is indicative of the circumstances under which community participation can bring about change. (See Box 4.4)

**Box 4.4: Community action in rolling back environmental externalities in post-war Japan**

In the years immediately following the Second World War, Japan embarked upon a period of extremely rapid industrial growth, which while highly successful in conventional economic terms, brought with it major environmental externalities. The consequences of air and water pollution were exemplified in the 1960’s by the well documented cases of Yokkaichi Asthma and Minamata Disease.

The Japanese response to such environmental problems originated at the municipal and local levels, where citizens exerted pressure on elected officials to take measures against offending industrial enterprises. A series of voluntary agreements were made between industrial enterprises and local governments, which in many cases did not have any explicit environmental jurisdiction or responsibility. National legislation tended to follow later, and national standards for air and water quality invariably remain lower than those contained in the approximately 40,000 voluntary agreements now in place in Japan.

As far as domestic air and water quality is concerned, there is universal agreement that Japan has been an exemplary case, and a number of factors are widely cited as reasons for this. These include: a free press which publicized environmental issues; universal literacy, with a strong emphasis upon technical education, which enabled citizens to understand the impact of environmental degradation on their own health and wellbeing; and a democratic system in which local officials were compelled to take citizens complaints seriously, yet were powerful and efficient enough to address complex technical issues and take measures to address pollution.

Source: Aoyama (1994).

The experience and the literature on stakeholder participation in infrastructure projects is vast\(^3\), but there are some very consistent themes which emerge. Providing as much information as possible to communities is essential. Communities need to know particularly about technological and location options to be able to decide how those projects could benefit them most, and how the negative impacts and the risks could be best mitigated. Giving stakeholders a genuine chance to be heard, and to make a difference, requires involving them very early in the project planning process\(^4\). When those with relatively little negotiating power come late to the process, their voices are likely to be drowned out and the participation process becomes tokenism.

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\(^3\) For a good example, see Gross, van Wijk and Mukherjee’s (2001) discussion of lessons learned from 88 community-managed water supply projects.

\(^4\) We saw earlier how disability advocacy groups got involved in the design of the Bangkok subway during the planning stage, which substantially increased the feasibility of incorporating elevators and barrier-free access (see Chapter 2, Box 2.7).
Box 4.5: Making a deal with the community: water supply and accountability in Indonesia

Most drinking water in Indonesia is supplied by local government-owned water companies (PDAM). Audits of a number of PDAMs have found serious problems, including low coverage levels, high levels of unaccounted-for-water, non-potable water, and severe financial difficulties due to low tariffs and mismanagement. While the local councils demand increased coverage and improved service, they often do not provide the PDAMs with sufficient resources to be able to achieve these objectives.

A USAID project assisted PDAMs to break the vicious cycle by developing Corporate Plans focused on utilizing excess capacity, reducing water losses, increasing productivity, reducing staffing ratios, and enabling tariff increases. Emphasis on customer service is an important part of the plans. By communicating the PDAM’s plan for improving service and focusing on customer service, the PDAMs gained the support of the community, which in turn enabled the local councils to grant the much-needed tariff increases.

For example, PDAM Banjar in South Kalimantan was in poor condition, with revenues barely covering out-of-pocket costs, water losses reaching 40 percent, and water provided only 12 hours a day. A plan was developed to enable the PDAM to improve services. But the success of the plan depended on increased revenue from tariffs, and the local council would not approve the tariff increases. The PDAM therefore took the plan to the community, explaining the objectives and why the tariff revenues were needed. To cement its promises, the PDAM entered into a contract with the community, a contract which required real improvement in customer service.

By gaining the support of the community, the PDAM was able to obtain the tariff increase from the local council and has been able to decrease water losses, increase supply, improve water quality, and re-design their billing and collection system to virtually eliminate long lines and waiting periods.


And once the infrastructure is built, stakeholder participation need not end there. Participation can help ensure service provision remains appropriate to the community’s needs. Box 4.5 illustrates the innovative role that community participation has played in water supply in Indonesia.

Community participation may be vital in one more respect. Some kinds of infrastructure frequent bring significant costs to communities that do not enjoy many of the benefits. Power generators, sewerage treatment plants, dams often have to be built in somebody’s back yard. Provision for adequate compensation to affected communities is a generally endorsed principle for all infrastructure projects of this nature. But ensuring that all costs are compensated, and risks mitigated is difficult even when strong accountability mechanisms are in place. In countries in which the governance environment is poor, it is even harder.

Community consultation should always be at the centre of such processes. But official lenders and donors may also have an important role to play. The risk mitigation mechanisms established around the Nam Theun 2 dam project in Lao PDR are one example of how official lenders and donors have attempted to do this (Box 4.6).
Box 4.6: Putting accountability mechanisms into large infrastructure projects - Nam Theun 2

Nam Theun 2 (NT2) is a major hydropower project currently under consideration in the Lao People’s Democratic Republic. The project would entail investment of $1.2 billion, to be undertaken by the private sector, 250 km east of the Laotian capital, Vientiane, on the Nam Theun River. Its goal is to generate over 1000 MW of electricity, almost all of which would be exported to neighboring Thailand.

By any scale, the project is large. In Laotian terms it is enormous – equal to close on the country’s current annual GDP. The returns of the project to the country are significant. And Lao PDR has few development alternatives.

But the project comes with a number of important risks, arising from the structure of the investment, and Lao PDR’s accountability environment.

The first of these risks – common to major enclave investments in developing countries – is the highly unequal allocation of cost and benefits. In the case of NT2, the major benefits of the project take the form of payments to the government, arising from its 25 percent shareholding in the project, in the form of dividends, and royalties, as well as taxes. The main costs, however, are carried by communities and the environment in the project area, arising from the construction of the dam, the flooding of the Nakai Plateau and downstream effects associated with the inter-basin transfer of water from the Nam Theun to the Xe Bang Fai River.

This raises issues both of equity, and of incentives. Since the government carries limited costs, and enjoys most benefits, its incentives to intervene in the case of those that do carry costs is limited. When those who are most likely to suffer negative impacts are poor and marginalized, and when mechanisms of accountability and participation are highly constrained, this becomes all the more so.

The second feature of the project is the major risk that the substantial benefits accruing to government will not be effectively translated into benefits for the country. While NT2 inflows to the government are likely to account for only 5 percent of government revenue, their impact on expenditures has the potential to be highly significant if effectively targeted. Projected NT2 revenues to the government in 2011, adjusted to today’s prices, are equivalent to approximately half of domestically financed expenditure on education and health.

However, widespread weaknesses in governance constrain the ability of Lao PDR to significantly address its poor development outcomes. As Figure 4.1 shows, Lao PDR’s governance performances rates poorly against averages for both low-income regions, and the region as a whole, particularly on voice and accountability, and on control of corruption. The government’s capacity to channel resources into poverty reduction is also constrained by one of the least effective service delivery mechanisms in the region. Public expenditure management remains both weak, and highly untransparent. The government has only recently resumed publication of the state budget, and the public finance management system fails to meet any of the HIPC benchmarks.

The design of NT2 attempts to address these issues in a number of

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Figure 4.1. Lao PDR Governance Indicators

![Figure 4.1. Lao PDR Governance Indicators](image)

Source: Kaufmann, Kray and Mastruzzi (2003)
overlapping ways: First, in assigning joint responsibility to the concessionaire and the government – through provisions written into the concession agreement – to finance and implement measures to compensate for impacts and costs suffered in the project area; second, in making changes to the project design to mitigate the risk of negative externalities, where feasible; third, by bringing international financial institutions into the financing of the project, effectively making continued donor support conditional on the government’s commitment to fulfilling its responsibilities in terms of the concession; and fourth, through the establishment of mechanisms to earmark project revenues for poverty reduction, while improving the public finance management system through which they – and all expenditure – must be delivered.

Active participation of the international community has helped encourage local public consultation and disclosure, to ensure that affected people are fully informed of the project, and that their views are taken into account. Over 200 consultations and workshops were conducted in project-affected areas to ensure that affected people would participate in the measures to protect them from the impact of the project. A total of $89 million has been designated as capital and operating expenditures for environmental and social mitigation and compensation*. These obligations are defined, and costed in the concession agreement, which has been signed by the government and the private sector concessionaires.

Mechanisms have also been developed to address weak accountability arrangements in the public finance management system, in particular to facilitate more effective and transparent targeting of NT2 revenues towards poverty reduction goals. Proposed revenue and expenditure management arrangements will focus on the development of the Government’s core public expenditure management system and will avoid building parallel systems through which to channel NT2 revenues. Under this approach, NT2 revenues will be channeled through the central treasury account to finance expenditures on eligible poverty reduction and conservation programs. These programs will be required to meet management and reporting standards. Expenditures and program impact will be monitored through a program of expenditure reviews and expenditure tracking surveys. In this way, the implementation of NT2 revenue and expenditure management arrangements will support broader public expenditure management reforms.

* see ADB (2004a), and http://www.namtheun2.com for a detailed discussion of these proposed mechanisms

But outside of this special case, for large-scale network infrastructure, participation is generally beyond the scope of individual communities, except for the “last kilometer” of the network that comes to them: the siting of an electricity substation, the routing of a feeder road, the choice of community standpipe versus in-house connection, choosing whether to connect to the network at all. At the sector level, the “pull” of accountability needs to be more institutionalized: through markets, regulators and governments. Let’s start with markets.

**Competition for accountability**

Competitive infrastructure service providers can be held accountable by consumers. If an airline, a jeepney, or a mobile phone company provides an unreliable or expensive service, you go elsewhere.\(^8^5\) That kind of market rewards those who are efficient. This is the short route to accountability.

\(^8^5\) Competitive markets also tend to hold consumers accountable. Where service providers are monopolists they are sometimes obliged to serve even those customers with bad payments records – in essence, subsidizing them out of monopoly profits. In competitive markets, it is harder to impose such an obligation to serve without explicit compensation. Once compensation is explicit, it is more likely to be targeted to specific types of customer, and other customers face a clearer obligation to pay if they are to continue to receive service.
Most infrastructure networks cannot feasibly be provided competitively – the economies of scale are too great – but many infrastructure services provided through those networks can be competitive. The potential for such competition varies by sector for a combination of technological, economic, and political reasons. The “standard model” for harnessing such competition is to unbundle utilities, both horizontally and vertically, and to introduce private sector participation under conditions of competition where possible. This can take the form of full divestiture of certain assets, but may equally take the form of management contracts, where – for instance – market size in insufficient to allow for unbundling.

In the case of water distribution, for instance, markets tend to be localized and hence small, because the costs of transmitting water over long distances is prohibitive - bulk water costs can increase by up to 50 percent per 100 km transported, compared with 5 percent for electricity and 2.5 percent for gas. This limits scope for competition in the market, and it’s further limited by the technical challenges of assuring water quality and safety if different suppliers access the same network (as well as being limited by availability of a variety of bulk freshwater sources in a given area). There has been experimentation with third-party access in some developed countries (as is the case with “inset” appointments in England and Wales) but so far water supply competition is rare – although there can still of course be competition for the market through the tendering of concession rights (which is fairly common in East Asia).

However, in telecommunications, electricity, gas, and most transport services, competition to supply services over networks is technically much more feasible than in water supply. The last two decades have seen an enormous increase in the prevalence of competition in those sectors worldwide (see Box 4.7 for a discussion of telecoms in particular). But East Asia has not been in the forefront of introducing infrastructure service competition. Even in telecommunications, where the technological basis of competition is comparatively straightforward, competition in East Asia is still limited by international standards (see Figure 4.2).

In electricity, competition is also quite restricted. Indeed, the example of the way that independent power producers (IPPs) have been introduced in most East Asian electricity sectors, is illustrative of some of the factors which can limit competition in the region’s infrastructure services more broadly (Box 4.8).

IPPs have brought private participation to East Asian electricity sectors, but they don’t generally sell power in a competitive market. Instead they usually sell to a state-owned single buyer (often a transmission company), which then sells the power (as a monopolist) directly to large final customers or to unbundled distribution companies. Typically, the IPP sells power under a

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87 The system of “inset appointments” in England and Wales allows large users to choose an alternative licensed supplier. Inset appointments allow one company to replace another or the statutory service provider for a specified geographical area. For a comprehensive analysis of level of competition in the water sector in European countries, see, for example, WRc and Ecologic for the European Commission (2002), “Study on the Application of the Competition Rules to the Water Sector in the European Community”.

88 See Kessides (2004).

89 The IPP/single-buyer model obviously allows for competition for the market (through a bidding process for the IPP concession) even if it precludes competition in the market. However, under this model, the government generally
long-term power purchase agreement (PPA), with at least a portion of the payment guaranteed at a pre-determined price regardless of actual demand (so-called “take-or-pay” provisions).\textsuperscript{90}

Figure 4.2: Full competition in telecommunications remains rare in East Asia (International Voice Communications, 2003)

![World Map showing competition levels in telecommunications](image)

Source: World Bank staff

Why have East Asian countries chosen to impose a single buyer (which is simultaneously a single seller) between the IPP generators and the customers? One common reason is that the single buyer can facilitate the introduction of private finance for generation quickly when capacity shortages are looming\textsuperscript{91} This was the principal reason for using the single-buyer/IPP model in the Philippines, Indonesia, Thailand and elsewhere in the region. Private financing may be wanted to bring efficiency in design, construction or operation – or simply to relieve the immediate burden on the public purse (and sometimes just to hide the burden on the public purse). Another objective for keeping single buyers has been to extract monopoly rent for political or personal gain. A further reason has been a feeling that national control over strategic infrastructure assets can be politically important (particularly when there is foreign investment involved in generation).

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\textsuperscript{90} Usually, the sector structure prior to the introduction of the IPPs was a vertically integrated state-owned monopoly. The single buyer frequently retains some generation capacity also.

\textsuperscript{91} Electricity grids need a central operator to coordinate system balancing, reliability and ancillary services, and operating cultures cannot easily change overnight from the one prevailing in a vertically-integrated utility. Unbundling those operational functions from the control over generation can therefore take time. IPPs can be a transitional step.
Box 4.7: Technology, competition and regulation – the push and pull of accountability in the telecoms sector

The interaction between technology, markets and sound regulation is at the heart of the recent transformation of the telecoms industry across the world.

This is the push-and-pull of accountability at its best, as regulators ensure that the levers of technology and market forces are exploited by private operators to the benefit of consumers, and markets in turn allow consumers to join with regulators in holding private operators accountable.

Technology has been the catalyzing force. As technology has lowered barriers to entry, previously unprofitable sectors have been transformed, new markets have opened, both in turn increasing competition, and spurring the development of yet more innovative business solutions and service.

Market forces have helped hold service providers accountable – competition has forced carriers to tailor services to the needs of the users, inducing operators, for example, to offer bundled free voice calls and value-added services. In China and Thailand, it has driven the trend towards bundling of fixed and wireless services, and is likely to promote industry convergence, as new business models replace old.

Among the most important implications: New possibilities for universal services. Cellular mobile penetration in rural areas has forced policy-makers to broaden the concept of universal access, originally conceived for fixed line telephony, to include substitute products.

The interplay between market-based mechanisms and technology innovation has proved to be much more successful in connecting new users than the traditional business model, based on an incumbent monopoly service provider. With the introduction of pre-paid technology, the mobile operators in Cambodia, China, Thailand and the Philippines are now competing for business in rural villages previously uneconomic to serve.

Regulation has a crucial role to play at the interface between technology and market forces. Its role: to facilitate market liberalization and technology diffusion, and provide a level playing field for incumbent service providers and new entrants. On the one hand this means technology-neutrality: allowing the development of new technologies, like VoIP, and resisting pressures to protect incumbent business models, based on outmoded technology. Ensuring that subsidies can be funded in a competition-neutral manner is equally important: Imposing uniform pricing on universal service providers on equity grounds (regardless of cost differentials) has proved an obstacle to market liberalization, as the most profitable segments of the market are competed away by new entrants, leaving universal service providers with the loss-making sections of the customer base.


And a fourth – and very powerful objective – is that a single buyer can easily cross-subsidize. In Indonesia, for example, the state electricity utility, PLN, maintains explicit subsidies between large and small consumers. At one end of the range, a small residential consumer with a 450VA connection and consumption of 50 kWh per month currently pays US 3.5 cents per kWh, while a large residential consumer with a connected capacity of 16,500VA and monthly consumption of 2,000 kWh per month pays approximately 10.1 cents per kWh (World Bank 2004a).

Cross-subsidies can be very important for social or political reasons (as we shall discuss in more detail later). Single buyers can retain creditworthy customers, who might be lured away by private generators if competition were possible. Competition therefore makes it difficult for less creditworthy customers to be cross-subsidized. Or indeed for the state utility to “cross-subsidize” its own excessive costs.
Box 4.8: Choice of power sector structure in East Asia

The variety of market structures emerging from reforms to power sectors can be categorized according to increasing degree of competition, as set out in Table 4.1 below (following Hunt and Shuttleworth 1996). Under Models 1 and 2, generation companies (which may be part of the national utility, may be a state-owned company, or an IPP) sell power to a state-owned single buyer. In the developing world, few countries – mainly in Latin America – have advanced power sector reforms far beyond the single buyer model. Countries in East Asia have to date strongly opted for model 1.

Table 4.1: Distribution of developing and transition countries by structure of power supply (mid-2004)

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>A national utility and/or regional vertically integrated utilities</td>
<td>Regional discos, a national or regional genco/ transco</td>
<td>Regional distcos, many gencos, a national transco</td>
<td>A wholesale power market, many gencos and discos, national/ regional transco(s)</td>
</tr>
<tr>
<td>Albania</td>
<td>Nigeria</td>
<td>Armenia</td>
<td>Bulgaria</td>
</tr>
<tr>
<td>Algeria</td>
<td>Malaysia</td>
<td>Czech Rep.</td>
<td>Ecuador</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>Mexico</td>
<td>Estonia</td>
<td>Georgia</td>
</tr>
<tr>
<td>Belarus</td>
<td>Nepal</td>
<td>India’</td>
<td>Hungary</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Paraguay</td>
<td>Kenya</td>
<td>India (Orissa)</td>
</tr>
<tr>
<td>China</td>
<td>Serbia</td>
<td>Latvia</td>
<td>Philippines</td>
</tr>
<tr>
<td>Croatia</td>
<td>South Africa</td>
<td>Lithuania</td>
<td>Poland</td>
</tr>
<tr>
<td>Egypt</td>
<td>Sri Lanka</td>
<td>Kazakhstan</td>
<td>Romania</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>Tanzania</td>
<td>Moldova</td>
<td>Russian Fed.</td>
</tr>
<tr>
<td>India’</td>
<td>Turkmenistan</td>
<td>Mongolia</td>
<td>Ukraine</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Uruguay</td>
<td>Pakistan</td>
<td></td>
</tr>
<tr>
<td>Jordan</td>
<td>Uzbekistan</td>
<td>Slovakia</td>
<td></td>
</tr>
<tr>
<td>Tanzania</td>
<td>Vietnam</td>
<td>Thailand</td>
<td></td>
</tr>
<tr>
<td>Korea</td>
<td>Zambia</td>
<td>Uganda</td>
<td></td>
</tr>
<tr>
<td>Lao PDR</td>
<td>Zimbabwe</td>
<td>Venezuela</td>
<td></td>
</tr>
<tr>
<td>Montenegro</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: disco = distribution company; genco = generation company; transco = transmission company

* Many states

Sources: Various including APEC (2002); World Energy Council (2001).

A perhaps more benign way of making the cross-subsidies point is that a single buyer can shield private generators from taking on the less creditworthy customers directly, with the attendant commercial or regulatory risks. The single buyer is usually either creditworthy itself, or can be assumed to have sovereign creditworthiness standing behind it. It therefore represents a lower risk to the generator than would direct sales to customers with poor creditworthiness. Whether a particular single buyer actually mitigates the generator’s risk overall depends of course on the
preponderance of bad customers over good, and on the reliability of the single buyer as a customer itself.\footnote{It is worth noting that single buyers create their own significant risks for generators. If a generator has no choice but to sell power to the single buyer, it faces a risk of contract abrogation with no escape to other purchasers. This helps explain the length and broad scope of take-or-pay PPAs involving single buyers, as well as the sometimes high prices under such contracts. Unfortunately, long-term PPAs covering a substantial portion of generated power in a system, make it difficult to move later to a competitive market model without expensive compensation of pre-existing contracts.} This is clearly very country-specific.\footnote{See Kessides (2004) and Hunt and Shuttleworth (1996) for a comprehensive discussion of the merits and demerits of the single-buyer model.}

However, one thing is universal about the single buyer model: it loses much of the accountability for performance that comes from competition. This is relevant well beyond the electricity sector – competition has been limited in other infrastructure sectors for some of the same reasons as it has in the IPP case. Namely, cross-subsidies for sociopolitical objectives, monopoly rent-seeking, the protection of incumbent state enterprises, risk mitigation for the private sector, and the political control of strategic assets. In essence, the policy coordination challenge is how to achieve accountability when competition competes with these other objectives.

\textit{Regulators for accountability}

Where the invisible hand of competition does not reach, regulation will generally be needed to bring accountability to infrastructure service providers. There is a rich literature on infrastructure regulation, but our purpose in this section is specific: to clarify for what regulators are trying to hold service providers accountable, how regulators can get held accountable themselves, and how all this fits into the East Asian political context.

It is sometimes said that while making service providers accountable, the regulator needs to protect their interests in parallel with those of consumers, in order to minimize regulatory risk for investors. But this is rather misleading. As we saw in Chapter 1, infrastructure is ultimately paid for by consumers or taxpayers. Regulators can certainly affect the risks of investing in infrastructure service provision, but if they increase the risk, the cost of capital increases, and it’s the consumers or taxpayers who pay for it. So the regulator’s role is really to serve the interests of consumers and taxpayers - and try to hold service providers accountable for providing the service the consumers and taxpayers want.\footnote{Of course, this can also involve regulators holding individual consumers accountable, so that their actions don’t negatively impact other consumers (e.g. allowing service providers to take action against non-paying customers so that paying customers don’t have to cross-subsidize them).} Minimizing regulatory risk is just one key way of fulfilling that role.\footnote{The basic analysis of this section applies whether investors are public or private. However, holding publicly-owned infrastructure service providers accountable for performance is generally more difficult than doing so for private providers, whether through regulation, competition or other means.}
Box 4.9: Manila Water – the challenges of structuring competition for the market

Few instances of private sector participation in infrastructure in East Asia have attracted as much attention as the Manila’s twin water concessions. There are many ways in which the story has been told. Most feature prominently the impact of the Asian financial crisis on the sustainability of the contracts. But the story runs far deeper than that, into the challenges of structuring private and public sector relations, and harnessing competition.

In 1997, the Metropolitan Water Supply and Sewerage System (MWSS), the public water supply and sewerage company for Metro Manila, was privatized. At the time, this was the largest privatization in Asia, totaling a promised investment of US$5.7 billion.

MWSS is one of the oldest water systems in Asia, covering over 14 cities and municipalities, with a population of around 11 million people and a land area of 2000 square kilometers. By 1994, when privatization plans were first conceptualized, the prevailing view was that MWSS had largely failed in its mission to provide water and sewerage to its coverage population. MWSS had a non-revenue water (NRW) ratio of around 60 percent and was supplying water for at least 16 hours per day to only two-thirds of the population in its coverage area. Only 10 percent of the customers were connected to the sewerage system.

Private participation in MWSS took the form of a two concession contracts with private operators, one for the East Zone (Manila Water Company, MWCI) and one for the West Zone (Manila Water Services, MWSI). The concessions were granted on the basis of the lowest initial tariff (this would be important for garnering political support), and made provision for concession fees equal to the debt service payments on MWSS’s pre-

existing debts, denominated mostly in dollars. 90 percent (later 80 percent) of the fees were assigned to the western concession, MWSI.

Tariff adjustments were provided for in a number of ways. First, there would be rebasing every 5 years (initially, the concession allowed for the first rebasing in only the tenth year of operation, at the option of the regulatory office). In addition, the concession agreement provided for automatic annual inflation adjustments, and extraordinary price adjustment and cost recovery for events outside their direct control (such as large changes in the exchange rates) at any time during the intervening period.

The winning bids for the concessions entailed significant reductions in tariffs – to less than a third of the prevailing levels in the case of the East Zone. Did this mean that competition for the market brought greater efficiency, that risks would be better managed? Not on its own. Because infrastructure, and infrastructure concessions, are a long-term business. What the Manila concessions highlight is the difficulty of sustaining efficient outcomes as circumstances change, and participants respond to different incentives.

The most serious challenge to the concessions was the impact of the Asian financial crisis on debt inherited from MWSS – in particular for MWSI. Provision for automatic inflation adjustments proved to be insufficient to protect MWSI from the peso depreciation, since currency depreciation outstripped inflation. And an inbuilt extraordinary price adjustment mechanism (EPA) was insufficient to make up the difference – partly because the EPA required cost increases to be amortized over the life of the contract, but also because the basis for computing changes in unit-cost arising from the depreciation of the pesos was MWSI’s own overly-optimistic projections of the reduction in non-revenue water (which resulted in overly optimistic projections of future growth in sales volume). In 2003, MWSI gave notice to terminate its concession, and has been in dispute with the government since then.

This outcome highlights the difficulty of developing long term contractual mechanisms that are rigid enough to reduce parties’ exposure to risk, while remaining flexible enough to adjust to circumstances covering 20 to 30 year periods. But this is linked also to how the contracts were awarded, and the incentives that bidders faced in the bidding process.

One of the risks of a concession contract of the kind used in Manila is the risk that bidders submit unrealistically low bids in the expectation of recovering losses through higher tariffs when the tariffs are rebased, structuring their financing accordingly. When this happens, initially low tariffs are in effect a kind of loan to water consumers who ‘pay back’ their initial savings in subsequent concession periods. And sometimes at a pretty high interest rate.

This was partly the case with Manila water. Between 1997 and 2003, tariffs for both East and West concessions have more than tripled in peso terms. In dollar terms they have more than doubled. It is clear that tariffs increased not only to cover the effects of peso depreciation but also to make adjustments for the fact that the financial and technical models that were used by the concessionaires to generate their bid tariffs were too optimistic. For instance, NRW reduction targets promised in the winning bids, from 45 percent to 16 percent in the East, and from 64 percent to 31 percent in the West,
proven highly over-optimistic. NRW levels in both east and west zones have in fact hovered in the region of 57 percent. This was partly a fault of the concession design. The concession had not in fact specified penalties for NRW reduction shortfalls, as the designers thought that failure to achieve NRW targets by itself would be sufficient penalty, since concessionaires would have to bring more equity to the concessions, especially if lenders refused to finance the shortfall due to insufficient NRW outcomes. Did the concessions bring about value for money? In terms of new connections, improvement of water pressure, and the number of households enjoying at least 16 hours of water supply per day, both concessions have performed much better than MWSS before privatization. Coverage, for instance, increased to 75 percent by 2002, from 61 percent in 1996. But these outcomes do not match the high expectations raised by private participation. And those who have to pay more for water may protest more loudly than those with new connections or improved service praise the concessionaires.

Source: JBIC (2003); Castalia (2004c); and Medalla (2004).

But how does the regulator get held accountable itself? Well, there are a number of classic measures that can help. Some relate to process and participation: Writing statutes that clearly specify the rights and responsibilities of the regulator, and how to prioritize when there are multiple objectives. Allowing judicial review or effective arbitration of regulatory decisions. Requiring the production of annual reports, and subjecting the performance of the regulator to independent audit or parliamentary review. Meritocratic appointment and removal of regulators. Allowing stakeholder submissions on issues under review.

Others relate to transparency: Requiring regulators to publish decisions (and the reasoning behind the decisions), as well as licenses and benchmarked performance of regulated service providers. The Indonesian Water Supply Association (PERPAMSI), for instance, benchmarks and reports on 29 indicators, with information made available to the public on its website. (see Box 4.10 for how this plays out in East Asia as a whole). Mechanisms are also needed to allow consumers’ and potential consumers’ voices to be heard in policy and regulatory decisions. And so in the Philippines, for instance, tariff hearings are public, and customers are allowed to speak and ask questions. These issues are taken up further in Spotlight 2 of this chapter, on consumer participation in regulation.

But infrastructure is intensely political, and the accountability of the regulator therefore cannot be divorced from broader institutions of political accountability. Nor can the ability of the regulator to hold service providers accountable be separated from the political context. To some readers these will seem like rather radical statements. In the last two decades, much energy had been expended in the developed and developing worlds in pursuit of independence for regulators. This has been based on a view that infrastructure regulation should be depoliticized.

There is much value in this argument, and in the pursuit of independence, political intervention in infrastructure can often be damaging, particularly if it is short-termist. But independence is a relative concept. Many countries find their sovereign independence to be evolutionary rather than absolute, and many countries struggle to create a separation of powers in their basic political

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96 See, for example, Kessides (2004).
97 Castalia (2004x)
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institutions. So it’s not too surprising that independence for infrastructure regulators would take time.

And it is indeed taking time. In the words of one recent paper, “Most new regulators in developing countries, when asked whether they have the independence provided for in law, will either say ‘no’ or avert their glance and change the subject.” (Bakovic, Tenenbaum, and Woolf 2003). In the words of another, “The label ‘independent’ is somewhat exaggerated when applied to new regulators in developing and transition economies.” (Kessides 2004).

Box 4.10: Holding Regulators accountable through transparency

The results of the recent survey of EAP regulators suggests that around two-third of the surveyed regulators in the EAP region disclose procedures and decisions, while half of the regulators also release to the public performance indicators of regulated service providers. However, licenses and contracts with private service providers are still kept confidential by the majority of the regulating entities.

Figure 4.3: Measures to enhance transparency

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclose procedures and decisions</td>
<td>71%</td>
</tr>
<tr>
<td>Disclose benchmarked performance of service operators</td>
<td>47%</td>
</tr>
<tr>
<td>Disclose licenses and contracts</td>
<td>42%</td>
</tr>
</tbody>
</table>

Question: ‘Which actions does your agency take to ensure the promotion of consumer awareness?’ Multiple-answers allowed.


East Asia is certainly no exception – which is unsurprising given its tradition of strong central control. “Independence” is obviously hard to measure in a comparable manner, but in the survey
of East Asian regulators discussed in Spotlight 2 of this chapter less than 40 percent described themselves as even nominally independent.

So how can the design of regulatory institutions accommodate the evolutionary nature of independence? One basic method is to ensure that the degree of discretion allowed to the regulator does not exceed what the political culture can absorb. This implies that fledgling regulators should have relatively limited discretionary powers, and that discretion should build over time. A key example is that regulators could start out with multi-year tariff-setting systems in which tariffs are set by specific formulae in the first few years, and according to more general principles in later years.

Another example is that regulation for specific service providers could be established by concession contract negotiated between the investors and the government (according to principles and parameters laid down in generally-applicable legislation). The day-to-day application of the contract would be delegated to the regulator. A third example is that key aspects of regulation could initially be contracted out to third-party expertise, enhancing the credibility of regulatory decisions, until such time as greater discretion can be allowed (see Box 4.11).

We saw in Chapter 1 that the infrastructure investor perceptions survey conducted for this study showed that investor interest in the region was strong, but heavily contingent on reducing policy-based risk. That survey found that predictability of regulation was a major cause for concern in the region, and a significant determinant of actual investment. Respondents rarely talked about a need for regulators to be independent, and they often argued that predictable regulation required explicit agreements with political authorities in the East Asia region (and showed a corresponding lack of faith in independent regulation or judicial review). In essence, respondents acknowledged the coordination role of the East Asian state that we discussed in Chapter 3. Indeed, respondents showed a marked preference for investing in countries which have strong strategic vision about infrastructure.

This survey response can be interpreted in various ways, but one key theme emerges: investors want predictability, and predictability in East Asia may not require initially high levels of independence for regulators. Indeed, an evolutionary approach to the discretionary power of independent regulators seems appropriate. If discretion exceeds political absorption capacities at any point in time a political backlash is likely (e.g. the head of state overturns a regulator’s tariff increase); conversely, if regulators’ discretion does not grow as the ability of governments to exercise top-down control declines, a regulatory vacuum could emerge. Discretion that grows over time, and liberates itself progressively from political pressures, could enhance predictability (see Figure 4.4 for an illustration).

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98 East Asia and Pacific Private Investors in Infrastructure Perception Survey (2004), which can be found at http://www.worldbank.org/eapinfrastructure.
Contracting out regulatory functions is a well-established practice in infrastructure sectors of both developing and developed countries. Regulators can outsource technical tasks, specific regulatory decisions or the whole regulatory process. Contracting out arrangements can be built in the institutional framework, as it is often the case when contracted-out recommendations are binding, or pursued on ad-hoc basis. The external contracted agency may consist of individual consultants, government agencies (at the national or regional level) or NGOs.

The rationale for seeking external advice or contracting out regulatory decisions varies to a significant extent according to the local context as well as the stage of the life of the regulatory agency. Experienced regulators tend to outsource specific regulatory functions (albeit retaining decision-making responsibilities) to reduce costs and bridge the information asymmetry between the regulator and service providers. For example, the energy regulator in the UK, Ofgem, employs contractors to conduct independent audits of regulated companies and monitor their compliance with quality targets. Nascent regulators may decide to contract out binding regulatory functions in order to leverage the international expertise required to gain regulatory credibility vis-à-vis private operators. For example in 1998 the newly-established Bucharest Agency for Water and Sewerage Regulation (ARBAC) appointed a panel of experts to conduct the tariff review; in 1996, the Palestinian Water Authority (PWA) relied on third-party technical and financial audit to review on an annual basis the performance-based management fee for the first water utility management contract in Gaza. The practice of contracting out is more widespread in the water sector, where most regulators are set up at the local level and have limited regulatory capacity, and in the telecommunication sector, where regulators need to be kept abreast of a rapidly evolving environment.

The practice of contracting out regulatory decision-making to regional institutions can yield significant benefits for very small countries, where scarcity of technical skills may make it efficient to limit the number of regulatory agencies. In such a context, a regional regulatory agency might be in a better position than small national regulatory bodies to build the critical mass of regulatory capacity required to ensure legitimacy of regulatory decisions. For example, the Eastern Caribbean Telecommunication Authority (ECTEL) serves the member countries of the Organization of the Eastern Caribbean States as a shared regulatory body. ECTEL’s mandate is to coordinate regional telecommunication policies in addition to providing advice and support to national regulatory agencies.

Similarly, there is merit in adopting a regional regulatory approach when infrastructure regulation affects inter- and intra-regional trade, resulting in additional transaction costs for operators. For instance, national transportation safety regulations may conflict with each other and hence limit or distort opportunities for trade. In such a context, there is a clear economic argument for national regulators to relinquish partially their regulatory jurisdiction to super-national entities better placed to promote standard harmonization. There may be for instance a rationale for setting up a regional transport regulator in the Pacific Islands, which are part of the same trade area. A number of Pacific Islands have been moving in this direction by exploring the possibility of establishing a regional aviation safety authority, the Pacific Aviation Safety Office (PASO). This would be responsible for setting and ensuring compliance with standards of safety and security in the aviation and airport sector across member countries.

However, several challenges arise when regulatory decision-making is contracted out. In the first place, contracting out regulatory decisions can weaken the accountability of the regulator vis-à-vis the local consumer constituency. To avoid loss of accountability, national regulators need to maintain sufficient in-house regulatory capacity to monitor the contract performance and ensure the transparency of the contracting out process. Contracting out core regulatory decisions is often a politically sensitive decision, as governments may be reluctant to surrender their sovereign regulatory authority on contentious issues (such as tariff reviews). For example, ECTEL is not authorized to impinge on member countries’ authority on contentious issues (such as tariff reviews). For example, ECTEL is not authorized to impinge on member countries’ authority on contentious issues (such as tariff reviews). For example, ECTEL is not authorized to impinge on member countries’ authority on contentious issues (such as tariff reviews). For example, ECTEL is not authorized to impinge on member countries’ authority on contentious issues (such as tariff reviews).
**Risk sharing, accountability and managing government support**

We have talked about the various ways in which accountability can be brought into the provision of infrastructure services, and how risk can be managed. We looked at the roles of communities, regulators, and competition, in respect of the relationship between service providers and consumers. In the last part of this chapter we look at the role of government, and in particular, at how accountability can be brought into the manner in which it shares risks with infrastructure providers in the delivery of services.

When governments delegate service provision, they typically do it under some kind of risk-sharing arrangement. Often this involves government support, and most frequently, in the form of subsidies or guarantees. By providing this support, the government effectively reduces the risk exposure of service providers (or their financiers) by some corresponding amount, because higher tariffs would have entailed greater political or market.

Risk-sharing arrangements of this kind are often crucial to delegation of service provision, but it raises important accountability challenges. Subsidizing the provision of services weakens the accountability relationships that binds providers and governments (and through them to consumers and tax-payers) by weakening the incentive to provide services in the most efficient manner possible. In the remainder of this chapter we highlight these issues, and set out what governments can do about it.
Subsidies, accountability and risk management

Infrastructure is riddled with subsidies. Some subsidies are obvious, some are hidden. Some protect the poor, some benefit the well-off. Some damage the environment, and some improve it. Some were created by policy, and others are there by accident. There are perhaps only two things we can say with any certainty about infrastructure subsidies: they are often necessary and they are always risky.

Subsidies can be needed for a variety of reasons. Perhaps the least controversial of reasons are the objectives of environmental protection and poverty reduction. Sometimes people are unable to pay for services. Other times they’re unwilling to pay. People typically won’t pay the full social value of sanitation services, because they can easily free ride on the environmental health benefits. An individual’s risk of ill-health is much more affected by everyone else’s behavior as regards sanitation, than by his/her own behavior. Mass rapid transit passengers often won’t pay the full value of the service, because the benefits of reduced traffic congestion and pollution are diffuse. When renewable energy is more expensive than fossil fuels, as is often the case, most consumers won’t voluntarily pay more, even if they worry about the risk of climate change. A case can be made for subsidies on environmental protection grounds.

The best subsidy scheme for poverty reduction would of course not target infrastructure specifically, but would raise the incomes of the poor so that they could afford the basic goods and services they choose to consume. The reality however is that general social safety nets are often not feasible, at least in the near term, and targeted subsidies are then the best available option. Where infrastructure is a high priority for poverty reduction, it could be a high priority for subsidies. Water, sanitation, rural roads are oft-quoted examples. One important criterion for granting subsidies is not just whether the subsidy raises the disposable income of the poor but also whether it reduces the volatility of their disposable income. In other words, does the subsidy provide protective security and reduce the risk of the poor getting even poorer?

And so to a controversial reason for subsidies: politics. Nobody has done a comprehensive global calculation but it is almost certain that the majority of subsidies go to the relatively well-off not to the poor. For the very obvious reason that the well-off have more political influence. But should policymakers always strive to remove subsidies to the well-off in order to free up resources for the poor?

Well, what if a water sector reform in a particular country would increase access for the poor, but the urban middle classes might resist the reform if their subsidies are removed? A very strong government might forge ahead and remove the subsidies anyway. A more risk-averse government might consider it preferable to maintain the subsidies at least for a while, particularly if the reform will eventually bring benefits to that middle class (e.g. more reliable water supply after investments have been made). Transitional subsidies for political reasons can be justified sometimes. And it’s probably desirable to be transparent about the justification.
But subsidies are risky for a very well-known reason: they can be addictive. The more you get, the more you ask for. They blur accountability, because they undermine the financial discipline of the service provider through which they are channeled. It is very hard to maintain effective performance in the presence of subsidies, and therefore hard to achieve even the very objectives of those subsidies. So how to re-inject accountability into subsidies?

One area to focus on is of course the origin of the problem: higher costs than we think people can afford or want to pay. Can we use regulated service standards and technology to bring costs down? – as we see, for instance, in Manila’s Bayan Tubig water-delivery program, where appropriate technology standards have helped to reduce water costs by up to 25 percent in densely populated slum-areas (source: World Bank 2003d).

Can we use competition, either in the market or for the subsidies (e.g. bidders for an infrastructure concession being evaluated according to who asks for the lowest subsidy)? – commonly the case in transport services.

And perhaps most difficult of all, can public enterprise reform help reduce financial losses, as in the case of the Phom Penh Water Supply Authority, where the successful top-down turnaround of the company help boost revenues to cost-recovery levels (see Box 4.13)?

If we’ve worked on the cost side, what can we do to minimize the subsidies directly? Can we make them transparent so that they are more likely to be subject to overall budget prioritization? This is the approach China is taking, in setting out of water and waste-water tariff adjustment programs over specified time-frames (Castalia 2004c).
Box 4.13 : Top-down turnaround – the Phnom Penh Water Supply Authority

The Phnom Penh Water Supply Authority, the public water company that serves Cambodia’s capital city, has undergone a remarkable transformation into an autonomous, commercially oriented and financially self-sufficient water company. In 1993, the company was highly subsidized, inefficient, and served only 20 percent of the city. Under new leadership supported by strong government and external assistance, the company embarked on a process to change the culture within the organization. Today, virtually the whole city (excluding suburbs and peri-urban areas) now has access to water 24 hours a day with a quality meeting international standards, while the company is no longer dependent on government financial support.

The key steps that the company has undertaken to enable this change included:

• Organizational restructuring. New management was brought in, staffing was streamlined, and incentives for good performance were introduced
• Water metering and stopping illegal connections. Today all water connections are metered and there are heavy penalties assessed on those using illegal connections
• Improved customer management. A customer survey was carried out and an automated billing system installed
• Public education. Consumers (including high level politicians) were educated about paying their bills.

Water tariffs were also increased during this time. To avoid a huge tariff increase, the company proposed a three-step tariff increase over a period of seven years. The first increase was in 1997 and the second in 2001. The company did not push for the third increase because its revenue already covered its cost, due to a higher collection ratio and reductions in NRW.

Source: Castalia (2004c).

Table 4.2: Comparison of Performance – 1993 and 2003

<table>
<thead>
<tr>
<th></th>
<th>1993</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td>26,881</td>
<td>105,771</td>
</tr>
<tr>
<td>Billing ratio</td>
<td>28%</td>
<td>83%</td>
</tr>
<tr>
<td>Collection ratio</td>
<td>50%</td>
<td>101.10%</td>
</tr>
<tr>
<td>Non-revenue water (NRW)</td>
<td>72%</td>
<td>17%</td>
</tr>
<tr>
<td>Total revenue</td>
<td>0.7 billion riels</td>
<td>38.6 billion riels</td>
</tr>
<tr>
<td>Total operating expenses</td>
<td>1.4 billion riels</td>
<td>10.1 billion riels</td>
</tr>
</tbody>
</table>

Can we make them performance-based so that they are disbursed only if certain specific targets are reached? In Cambodia, for example, the government is piloting performance-based subsidies for water connection, making the bulk of the subsidy to the private operator contingent on the number of connections of poor households to water supply (Yogita 2004). Can we make them a
Accountability and Risk Management

one-off payment, to minimize the risk that the subsidy tap remains open? Or can we adjust taxes or subsidies on competing services so as to cut the subsidy requirement on this one (e.g. reduce fuel subsidies/increase fuel taxation in order to increase MRT ridership)?

A further option for injecting accountability into subsidies might be to design cross-subsidies rather than direct ones. Sometimes there are enough consumers able and willing to pay above the price which covers average costs and so subsidize those whom we want to charge less than cost. The accountability of the bottom line can thereby be preserved.

One advantage cross-subsidies can have over direct subsidies is they minimize subsidy risk, i.e. the risk that investments will be made contingent on an expected subsidy flow that actually gets interrupted. If there is a significant risk that subsidy policy will be poorly coordinated with policy on service delivery, it might perhaps be preferable for the two policies to be made by one agency – the service provider (or a regulator).

Cross-subsidies can also minimize another risk, namely that givers of direct subsidies (e.g. ministries of finance) and regulators of tariffs may find it difficult to coordinate policies. A regulator may prefer to tacitly encourage higher subsidies rather than approve higher tariffs; tariffs make the regulator unpopular, while another agency is accountable for subsidies. For the subsidy-giver, the incentives are reversed. Coordination could be difficult (and it could perhaps be more difficult if the regulator is independent). Box 4.1 gives an interesting example from the Philippines, where poor coordination passed on the cost of electricity provision from consumers to tax payers.

However, cross-subsidies come at a cost. They can overtax certain consumers (e.g. high electricity tariffs charged to industry, which in effect taxes employment). They are often not transparent (and may sometimes encounter resistance to pay if they are), and they escape budgetary prioritization. And, as we saw above for IPPs, they can make it difficult to introduce competition. So we might gain one accountability instrument only at the expense of another (probably better) one. Indeed, it might be preferable to institute competition, and compensate with direct subsidies those who lose the benefit of cross-subsidies. Overall, accountability could be substantially increased.

Contingent liabilities, accountability and risk management

In addition to subsidies, there are other forms of fiscal support that share risk, but which are less direct – power-purchase obligations in the Philippines, for instance, or Thai government backing for borrowing of the state railways. Table 4.3 summarizes some of the most common in East Asia. This kind of fiscal support raises perhaps even more difficult accountability issues,

99 Subsidies paid per connection, or capital grants made to service providers, are examples of one-off payments. Connection subsidies are one type of performance-based subsidy, and are an important example of measuring performance by clearly-defined outputs. The funding by donors of subsidies contingent on delivery of outputs has recently become known as output-based aid (OBA), although the term is also used to cover other performance-based subsidies (including those not funded by aid).

100 There are other ways to minimize subsidy risk, including disbursing subsidies into escrow accounts or trust funds, contracts with private providers, or involving an external donor such as through an OBA scheme.
particularly given the probabilistic (or “contingent”) nature of the claims, that many of them occur off-budget, and responsibilities are not always well-defined (i.e. claims are “implicit”).

Box 4.1: Coordination failure: regulators and subsidies in the Philippines electricity sector

The Small Power Utilities Group (SPUG) is in charge of electricity generation in off-grid areas for the National Power Corporation (NPC) in the Philippines. SPUG has two sources of revenues: tariffs charged to local distribution utilities, and cross-subsidies paid out of a regulator-approved levy charged to all electricity users.

In 2003, SPUG estimated that its total revenue requirement was around US$0.30/kWh, while its average tariff was around US$0.08/kWh. SPUG applied to the regulator for a levy that would cover the US$0.22/kWh revenue gap.

But arguing that SPUG’s costs were too high, the regulator approved a levy below requested by SPUG, giving SPUG only part of the cross-subsidy it requested. Rather than reducing its total costs to meet the expected cross-subsidy and tariff revenues, SPUG financed the revenue shortfall with bridge loans. These loans are ultimately absorbed by NPC, and eventually the Government and taxpayers, in effect transforming them into a direct subsidy.

In short, lack of coordination caused the taxpayer to pick up the bill instead of the consumer. Given the lack of coordination between the regulator and the fiscal authorities, SPUG’s financial accountability may decline, and the taxpayers’ bill might be larger than the consumers’ would have been. But should the regulator be held accountable?

Source: Castalia (2004a).

The ability of a government to manage its share of the risk in an infrastructure asset, and to be held accountable for that management, obviously depends critically on its fiscal institutions. At a very general level, this requires that the government is appropriately reconciling solvency and liquidity as discussed in the previous chapter. This in turn depends on the quality of fiscal information and the degree of disclosure (e.g. use of accrual accounting and risk annotation of financial statements to ensure good disclosure of risk exposure).

Of critical importance of course is the actual utilization of this information about fiscal risk during the budget process (including at the subnational level where infrastructure can create considerable fiscal risk). Ideally, governments would decide on overall ceilings for fiscal risk, issue guidelines on risk assumption to sector agencies and local governments, monitor centrally how much risk is being assumed, and generally require central approval of the assumption of risk. The outcomes should be subject to audit to facilitate accountability for risk-taking.101 Publication of any licenses and contracts which give rise to fiscal risk would also facilitate accountability.

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101 See Brixi and Irwin (2004) for a detailed discussion of fiscal institutions to manage infrastructure risk.
### Table 4.3: Common types of central government fiscal support for Infrastructure

<table>
<thead>
<tr>
<th>Explicit (Government liability created by a law or contract)</th>
<th>Direct (Obligation in any event)</th>
<th>Contingent (Obligation if a particular event occurs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sovereign debt (or long-term purchase agreements) contracted by central government for infrastructure investments (e.g. China’s infrastructure bonds)</td>
<td>State guarantees of long-term purchase contracts of state owned utilities (e.g. the Philippines’ guarantees of NPC’s power-purchase obligations)</td>
<td></td>
</tr>
<tr>
<td>Central government subsidies</td>
<td>State guarantees of debt, revenue, exchange rates, and construction costs in private infrastructure projects (e.g. minimum-revenue and exchange-rate guarantees in Korean toll roads)</td>
<td></td>
</tr>
<tr>
<td>Tax expenditures, such as exemptions, that reduce future government revenue</td>
<td>State guarantees for borrowing of public infrastructure companies (e.g. of Thai state railways)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>State guarantees of financial institutions involved in infrastructure financing</td>
<td></td>
</tr>
<tr>
<td>Implicit (A “political” obligation of government that reflects public and interest-group pressures)</td>
<td>The future cost of any no contractual but politically unavoidable budget subsidies</td>
<td>Non-contractual claims arising from private investment in infrastructure (e.g. various claims in Indonesia)</td>
</tr>
<tr>
<td></td>
<td>Future recurrent costs of public investment infrastructure projects</td>
<td>Claims by state owned infrastructure enterprises to help cover their losses, arrears, deferred maintenance, and debt (e.g. debt and arrears of energy generators in Mongolia)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Claims by local governments to help cover their non-guaranteed debt, their own guarantees, arrears, and other obligations related to infrastructure (e.g. municipal bonds to finance infrastructure Vietnam)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Claims by failing financial institutions whose portfolios have been weakened by financing infrastructure (e.g. China)</td>
</tr>
</tbody>
</table>

Source: Brixi and Irwin (2004).

The criterion of fiscal solvency is central to sound management of infrastructure risk. Governments in the region have often resorted to risk-sharing transactions with the private sector rather than undertaking straightforward public investment simply to get an expenditure “off the books”. In other words, liquidity improves because a direct claim has been transformed into a contingent one, within an accounting framework that does not fully account for contingent claims (as in the vast majority of countries). But in general, solvency will have improved only if
the transfer of risk to the private sector has brought efficiency gains.\textsuperscript{102} That depends on the accountability framework in place for the service provider.

And we have seen that competition is very important to service provision accountability. Indeed, we have also seen that competition is intimately linked to the degree of risk that can be transferred to the private sector. Where the state restricts competition by imposing a monopoly between the private supplier and the final customer (as in the IPP-single buyer case described above), that prevents the private supplier from competing for the more creditworthy customers in the market. The state’s consequent assumption of risk may be seen as compensating the private sector for this exclusion.

This points to a critical coordination issue: a ministry of finance that wants to minimize fiscal risk might strongly desire competition in infrastructure sectors, while sector agencies might have strong incentives to preserve monopoly power. And other ministries (for example social affairs, industry, environment) might want the efficiency gains that could come from competition.

And balancing those interests is never easy, particularly when private sector objectives are involved also. In some cases, the private sector might see competitive markets as an opportunity, but in others its efforts to mitigate overall risk might preclude competition. In many cases, overall investment climates present considerable risk, and infrastructure investments present extra risk for all the regulatory and other reasons discussed in earlier chapters. Against a highly risky background, private investors often seek government guarantees and commitments to protect the rewards from the risks (e.g. fixed price long-term power purchase agreements, minimum revenue guarantees for toll roads, under which risks become fiscal – as we saw in Table 4.3). Once the rewards are protected and government is carrying the risk, there’s little to compete for. In short, if governments were to minimize infrastructure investment risk that would often minimize fiscal risk and facilitate infrastructure service competition as well. This could create a very virtuous loop.

But we shouldn’t talk as if it is easy to determine how risks are really being shared in a particular arrangement, or how those arrangements compare to potential alternatives. For example, we saw in the Three Cities MRT story in Chapter 3 that the private sector appeared to bear most of the risks, but where that proved excessive, much of it ended up \textit{de facto} with the state (presumably because the projects couldn’t be allowed to fail).

Another prominent example is the treatment of currency depreciation risk under various institutional arrangements in the power sector. In this example, risk is hidden under certain arrangements, and is more open under others (particularly those involving private or foreign capital). There are many different ways for currency depreciation to impose costs on utility consumers or taxpayers. Some are transparent and some are hidden, but the economic costs may not differ much (see Box 4.15).

\textsuperscript{102} Even without efficiency gains, solvency could potentially be improved by the transaction if the government’s illiquidity would have prevented a pure public investment from being implemented, but private financing overcomes that constraint (as long as the project rate of return is sufficient to exceed the cost of private capital).
The involvement of foreign owners makes the economic costs of currency depreciation more transparent, which raises the political stakes. But the foreign owners may well have brought substantial efficiency gains, which were masked by the effect of the currency depreciation, but that could benefit consumers and taxpayers in the long run. The dilemma for policymakers: go for efficiency or go for a quiet political life? Or put it another way: go for a quiet life in the long run because of efficiency or in the short run because of populism? It depends on accountability.

More generally, a significant proportion of infrastructure concession contracts are formally renegotiated during the contract lifetime, and risks then get redistributed. Obviously nothing can chill an investment climate like contract renegotiations forced by governments. Sometimes renegotiation reflects a shift in bargaining power in favor of government once the concessionaire has sunk costs, often combined with an inability by concessionaires to enforce contracts through the court system. Sometimes renegotiation reflects a shock or crisis that neither party anticipated at the time of concluding the contract, such in Indonesia in the aftermath of the Asian crisis. And it can also reflect a legitimate learning process. Public-private risk-sharing in infrastructure is a relatively new science, the technology needs to be adapted for each sector and each country, and some experimentation is needed (see Spotlight 2 for an example of that learning process in Partnerships Victoria).

Indeed, one lesson to be learnt from crises is that they do recur, and could perhaps be anticipated in a renegotiated contract. For example, many concession contracts did not anticipate the currency crisis of 1997, yet the probability of a sharp currency depreciation during the 15-30 year typical period of such contracts is very high in almost every country in the world, all the more so in developing countries. Contracts could conceivably include provisions for tariff increases to be phased if they result from currency depreciations in excess of a specified rate, with agreement on how transitional liquidity is to be injected. This would avoid renegotiation during crisis when political constraints are at their height, and the country’s investment climate and creditworthiness at its most vulnerable.

Ownership, accountability, and beyond...

And so to the eternal ownership issue. Are privately-owned infrastructure service providers more or less accountable for performance than publicly-owned ones? We can’t really measure accountability directly, but we can of course measure performance. And we saw in Chapter 2 that the empirical evidence shows that private providers perform better on average, when the incentive environment gives them a good reason to do so. When faced with competition or with well-designed regulation that rewards efficiency gains, private ownership seems to yield greater accountability; private ownership by itself doesn’t seem to make much difference.104

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103 For example, Guasch (2004) found from a sample of more than one thousand infrastructure concessions in Latin America and the Caribbean during 1985-2000 that renegotiations occurred in 30 percent of them (this rises to 74 percent for water and sanitation concessions alone). See also Harris, Hidges, Schur and Shukla (2003).

104 See Kessides (2004) or Coelli, Estache, Perelman, and Trujillo (2003) for surveys of the empirical literature. The analysis is of course complicated by the variety of risk-sharing arrangements in infrastructure, and hence difficulty in defining “private” and “public” on a comparable basis, and also in the interdependence of performance of different entities in a given network (e.g. if private electricity generators rely on a publicly-owned transmission company it would sometimes be difficult to assess their performance independently).
Box 4.15: “Now you see it, now you don’t” – the case of currency risk

In the 1997 crisis in East Asia, rapid currency depreciation led to ruptures in relationships between some governments and foreign infrastructure investors. Contracts implied sharp tariff increases in a time of severe economic crisis and political unrest. The use of foreign capital, and the governments that attracted it in, were often blamed. But was it so simple? Let’s look at the following hypothetical cases to unpick what was going on.

**Case 1:** A utility is state-owned. The owners insist that tariff regulation includes tariff adjustment in case of currency depreciation in order to protect the return on their capital. The currency depreciates sharply, tariffs rise substantially, and consumers take a large loss. Popular sentiment asks why the foreigners were invited in. People say “We could have avoided this if we had used our own capital”.

**Case 2:** A utility is state-owned. Tariff regulation does not include tariff adjustment in case of currency depreciation. Foreign equity or loan financing for the utility is not possible as a result. A state-owned bank finances the utility in domestic currency. The currency depreciates, tariffs do not rise, the utility is unaffected. But the state-owned bank could instead have acquired foreign currency assets (e.g. US Treasury Bills) instead of financing the utility. The state-owned bank has therefore missed a huge capital gain. Taxpayers have therefore taken a large loss (although they may not know).

**Case 3:** A utility is state-owned, and tariff regulation does not include tariff adjustment in case of currency depreciation. Domestic banks finance the utility in domestic currency. However, interest rates are high because of currency depreciation risk, and the banks require tariffs to reflect those interest rates. When the currency actually depreciates tariffs do not need to rise, but consumers have taken a large loss already. (An alternative to this case is one in which loans are made at variable interest rates and interest rates rise once the currency depreciation happens. In this case, either tariffs are allowed to rise or there would need to have been a government guarantee to protect the banks and the guarantee now gets called up. So consumers or taxpayers take a large loss).

**Case 4:** A utility is state-owned. Tariff regulation does not include tariff adjustment in case of currency depreciation. Foreign loan financing for the utility is therefore possible only with government guarantee. The currency depreciates, and tariffs do not rise. But the utility cannot service the loan, and the government guarantee is called up. Taxpayers have therefore taken a large loss.

**Case 5:** A utility is state-owned, and tariff regulation does not include tariff adjustment in case of currency depreciation. The government budget finances the utility in domestic currency. The currency depreciates, tariffs do not rise, the utility is unaffected. But if the government had not financed the utility it would have run a surplus, which the central bank would have held as foreign assets on which it would now have made a huge capital gain. Taxpayers have therefore taken a large loss (although they may not know).

**Case 6:** A utility is privatized to domestic owners. Would they ask for the same tariff protection of the return on capital as the foreigners did? Probably yes, if their capital were mobile - unless of course they were compensated in some other way (i.e. the currency risk were hidden).

But where ownership is public, and markets are not competitive (whether for policy or for natural monopoly reasons), the accountability challenge is obviously great. Experience suggests that independent regulation is effective even less often with public monopoly providers than with private ones.

East Asian solutions to public enterprise accountability seem to lie in strong oversight by planning agencies, finance ministries or sector ministries; meritocratic public services; and a political commitment to effective service delivery. We saw in Chapter 3 the success story of the leading geese. Public monopoly service providers did great things – for a while. We saw in Box 4.13 that even in the chaos of post-conflict Cambodia, strong commitment created a near-miracle turnaround in performance in the Phnom Penh state-owned water supply company. The top-down solution can clearly bring accountability in certain circumstances, but long-term sustainability will often be in question.
**Concluding remarks**

In this chapter we came down from the strategic vision at the top of the accountability hierarchy and looked from a sectoral and a community level at how accountability mechanisms can work. We saw that when the traditional East Asian top-down model shows signs of strain there are ways of delegating service provision, but maintaining accountability for performance.

This chapter outlined several accountability mechanisms. First, we looked at how communities can manage small scale infrastructure for themselves, how they can participate in the “last kilometer” of larger network infrastructure, how community consultation on large projects could be more than tokenist, and how consumers have a role in regulation. Community accountability is a powerful force in parts of the region, and could be so much more widely over time.

We next discussed the role of competition as a great force for accountability, and saw that technological change and institutional innovation have considerably expanded the potential for competition in infrastructure service provision in recent decades. And yet competition in East Asian infrastructure still plays a relatively marginal role. The top is reluctant to let go.

We talked about economic regulation as an accountability mechanism where competition is limited, and we saw that regulation remains quite highly politicized in the region. Cost recovery is not yet on solid ground. In this context, we saw the importance of subsidies and the politicization of those subsidies, and suggested ways to make regulators and subsidy-givers more accountable. But much remains to be done.

We saw how crucial risk-sharing arrangements were to delegation of service provision, and that risk-sharing raises substantial accountability and coordination challenges. Most importantly, we talked about risk-sharing as a learning process. Mistakes get made, experiences teaches, new information comes in – all this can contribute to sharing risk in a manner more commensurate with each party’s ability to bear the risk and manage it. Some East Asian economies have been hesitant about this learning process since the 1997 crisis – once bitten, twice shy – but others like Korea are now forging ahead.

And last but not least, we saw that ownership does not matter by itself. We have seen plenty of disappointments in private provision in East Asia. What does matter is that private provision tends on average to respond better to competition and well-crafted regulation than does public provision. That means the more the system outgrows the top-down model and needs to delegate, the more it will need to attract the private sector if infrastructure provision and efficiency is to keep pace with East Asia’s needs. But this time around, private participation should come with competition and good regulation.

Throughout the report we have seen a centralized system which is showing some ability to adapt, endeavoring to overcome the strains by decentralizing some accountability: through local government autonomy, private provision, competition, arms-length regulation, and community initiative. The challenge going forward is to be less tentative and hesitant in that adaptation, to have the confidence to deepen the process. And East Asia has plenty of reasons for confidence.
Spotlight 2: Learning how to share risk: the case of Partnerships Victoria

The State of Victoria, in Australia, is one of a number of authorities across the world with programs to facilitate private sector participation in the provision of a range of infrastructure (and other) services through so-called Public Private Partnerships (PPP).

The State’s current “Partnerships Victoria” policy sets out principles and procedures for PPPs undertaken by agencies within the state, and is overseen by a dedicated unit within the Department of Treasury and Finance. The framework builds on over fifteen years of PPP experience, which has included many significant successes as well as a number of mistakes. But lessons have been drawn from both, to create a PPP framework that maximizes value for money, based on the careful calculation and assignment of optimal – as opposed to maximum – risk to the private sector.

PPPs use the private sector to deliver traditionally public sector infrastructure services, through a process that focuses on services and outputs, rather than short-term inputs. Under a typical PPP arrangement, one private party (usually a consortium) is engaged to design, construct, finance, maintain and at times operate an infrastructure facility. Payments are usually made only after the facility passes commissioning tests, over the term of the contract, based on service delivery meeting key performance indicators specified in the concession contract.

This contrasts with typical government infrastructure procurement, in which an architect would be engaged to design the facility, based on specified input requirements; a contractor would be engaged to construct the facility; government would operate the facility, and progress payments would be made to architects and contractors before commissioning.

Victoria’s experimentation with infrastructure PPPs began in the late 1980s, and early 1990s, and included the Victorian Accelerated Infrastructure Program, as well as train and locomotive leases. During this time, the use of PPPs largely reflected a desire to finance infrastructure off-balance sheet, rather than a concern for increased efficiency and value for money. The financing arrangements that resulted had little impact on the nature of service delivery arrangements, and entailed minimal risk transfer, with government often providing indemnities and guarantees to private parties. Some of the PPPs of the time were unwound later at significant cost to taxpayers.

The PPPs undertaken between 1994 and 1999 were governed by the Infrastructure Investment Policy for Victoria, which cast the role of the private sector in terms of increased efficiency and growth. Examples of infrastructure PPPs of that period include the Melbourne CityLink, various water and wastewater treatment plants, and public transport franchises. During this period the role of the private sector was expanded to also include operation and service delivery, with payment made only upon commencement of services, as well as significantly higher levels of risk transfer, including the removal of government guarantees on returns. While the assessment of PPP projects of the time is largely positive, the excessive concern with risk transfer lead to unsustainable financing arrangements in some cases. Other shortcomings included insufficient

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105 This case study draws on Maguire and Malinovich (2004).
attention to social and regional impact, limited benchmarking of performance, and insufficient attention to economic evaluation in some cases.

Since 2000, PPPs have been delivered through the state’s new Partnerships Victoria Policy framework. The approach is becoming an increasingly important tool for infrastructure delivery as a whole: Already 12 projects have been signed with a capital value of more than AU$2.5 billion, covering a range of infrastructure sectors, including water, information and communications technology, and transport, in addition to health and justice. The largest project so far is the Mitcham Frankston Freeway Project signed in October 2004 with a capital value of AU$2.5 billion. Three projects valued at almost AU$1 billion are also currently in the market and a number of projects are under development.

PPPs in Victoria currently account for around 10 percent of total capital investment in infrastructure. The public sector continues to deliver the majority of Victoria’s infrastructure needs, with PPPs most frequently used in large, complex or innovative infrastructure projects, where the private sector is best able to add value.

The new framework draws on lessons of the past in a number of important ways: value for money – rather than scarcity of capital, or any preference for off-balance-sheet financing – is the key rationale for whether PPP or traditional procurement arrangements are used to deliver infrastructure services. Emphasis is placed on whole-of-life costing, as well as on optimal risk transfer to the private sector. PPP projects are allocated funding as if they were to be built and owned by government. The funding is then available to be converted into a recurrent stream in the event of a Partnerships Victoria contract being executed.

The essence of the Partnerships Victoria approach is that government does not purchase an asset, but a service, or set of services, at an agreed quality, quantity, cost and timeliness – with payment withheld if services are not provided to specified levels. The government only enters into a PPP contract if private sector delivery mechanisms can pass a test demonstrating superior value for money, in comparison with the most efficient and likely method of providing the required output through public sector ownership and operation. The approach provides for a range of partnership models, depending on different private and public sector roles, and commercial scenarios. It sets out a rigorous procurement process to be followed by all agencies in the development of Partnerships Victoria projects. It also includes a formal public interest test, in which all projects are assessed in terms of their effectiveness, accountability and transparency, impact on individuals and communities, equity, consumer rights, public access, security and privacy.

Estimation of whether the private sector can deliver superior value for money takes into account both qualitative and quantitative factors. Quantitative evaluation criteria include the construction of a ‘public sector comparator’, which is defined in the framework as an estimate of the ‘hypothetical risk-adjusted cost if a project were to be financed, owned and implemented by government’ (Partnerships Victoria, 2001). This public sector comparator is compared with the cost of providing a service through a PPP, and the service delivery option which offers the better

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106 In all models, however, the government retains responsibility for the delivery of defined core services, such as nurses in hospital and officers in prisons
value for money is selected. Quantitative evaluation may also include a calculation of the impact of private sector participation on the delivery of those ‘core’ services that would remain under direct government provision, if the government retains direct delivery of such services. Factors that cannot be quantified include the track record of bidders, and differences in risk transfer and any intangible difference in service delivery.

The public sector comparator (PSC) against which the PPP bid/s are compared takes into account four components. Fairly straightforwardly, it takes into account retained risk (risks that the government would bear itself under a PPP), as well as the so-called “raw” public sector comparator. The latter includes all capital and operating costs associated with government construction (but with all contingencies removed). It then takes into account a competitive neutrality adjustment – which removes the net competitive advantages that accrue to a government, such as exemption from land tax. Finally, and often most importantly, it takes into account transferable risk – the risk which the government would bear under traditional procurement, but is likely to transfer to the private sector under a PPP. Costing, and taking into account this risk, often makes the difference between whether private or public sector provision is preferable.

Figure 4.5 below shows how typically the PSC is compared with the costs associated with provision through a PPP in the Partnerships Victoria framework.

Service delivery through PPPs tends to be feasible under a number of specific circumstances. Projects more suited to private sector delivery are usually large (infrequently less AU$50 million
to AU$100 million) – to offset the transaction and ongoing management costs associated with the Partnerships Victoria approach. They require that government need can be defined in measurable output terms; that there is opportunity for efficient risk transfer to the private sector; and that there is scope for the private sector to demonstrate particular skills and/or capacity for innovation. They also tend to be favored in cases when opportunity exists for revenue from third-party asset utilization (thereby decreasing the net cost to government), and when projects are able to generate competitive market interest.
Spotlight 3: Consumer participation, regulators, and accountability

The mandate of infrastructure regulators is to shape the ‘regulatory contract’ between consumers and service providers with monopoly power. Regulators are a countervailing power exercised on behalf of consumers. However, consumers are composed of diffuse interest groups, who may not be resourced to ‘voice’ their concerns effectively. Regulators need to actively engage consumers to hold service providers accountable for the delivery of the ‘regulatory contract’. Moreover, consumer participation provides the ‘checks and balances’ required to ensure that the regulator does not stray from its mandate of protector of consumer rights. This Spotlight discusses the status of consumer participation in infrastructure regulation in East Asia, drawing on the results of a survey questionnaire conducted among infrastructure regulators.107

Regulatory functions

The following regulatory functions are considered essential to involve consumers in the regulatory process:

Informing and educating consumers

Informing and educating consumers is necessary to hold service providers and regulators accountable vis-à-vis the consumer constituency. An effective strategy to redress information asymmetries between the parties hinges on a transparent regulatory process and effective information campaigns.

The degree of transparency of a regulatory regime largely depends on the disclosure policy of the regulating bodies. Almost two-third of the surveyed regulators in the region disclose procedures and decisions, while half of them also release to the public the benchmarked performance of regulated service providers. However, licenses and contracts with private service providers are still kept confidential by the majority of the regulating entities.

The regulator is also responsible for raising consumer awareness of their rights and obligations under the regulatory contract. The media is the most common channel of communication employed by the surveyed regulators; in addition, more than half of the surveyed regulators draw on ‘two-way’ vehicles of communications (either workshops and one-to-one meetings), which have the advantage of leading to a deeper form of consumer engagement. Most of the regulators rely on government and service providers as intermediaries to raise consumer awareness. Regulators tend also to leverage the expertise of sector-specific intermediaries (such as NGOs in the water sector and community leaders in the energy sector) to reach consumers. Consumer associations do not appear to play a significant role in raising consumer awareness.

107 The survey questionnaire has been prepared for the second meeting of the East Asia and Pacific (EAP) Forum of Infrastructure Regulators, which was held in Manila on April 5-7, 2004. The survey questionnaire covered 45 regulatory bodies from 21 countries (Australia, Cambodia, China, Fiji Islands, Hong Kong (China), Indonesia, Kiribati, Korea, Lao, Malaysia, Micronesia, Mongolia, Papua New Guinea, Philippines, Samoa, Solomon Islands, Singapore, Thailand, Tonga, Vanuatu and Vietnam) and from all infrastructure industries (15 energy regulators; 14 regulators in water and sanitation; 10 regulators in telecom; 1 transport regulator and 8 multi-sector regulators).
Handling consumer complaints

An effective complaint-handling mechanism should be established under any regulatory regime to hold regulated service providers accountable to consumers for the delivery of the ‘regulatory contract’. Two-thirds of the surveyed regulatory bodies have in place formal consumer redress mechanisms. While almost half of the regulators (42 percent) represent the first port of call for handling consumer complaints; for an equal number of cases, consumers’ complaints are directed in the first instance to service providers. Consumer associations do not appear to play a significant role in the redress process.\(^{108}\) Even when regulators do not represent the first port of call for handling consumer complaints, they retain important regulatory functions throughout the redress process; around half (53 percent) of the surveyed regulators are responsible for monitoring the responsiveness of service providers in handling consumer complaints; half (47 percent) maintain the right to step in should the complaint not be solved. However, only five regulatory agencies have in place financial incentives to reward/penalize service providers on the basis of their performance in addressing consumer complaints.

Soliciting consumer input

In non-monopolistic markets, consumers can reveal their preference and/or ‘voice’ their dissatisfaction by exercising the option of switching to substitute products. This system of ‘checks and balances’ ensures that service providers do value consumer information to enhance their competitiveness against rival firms. No similar mechanism is in place in monopolistic industries, where customers are generally locked in to the incumbent service provider. The onus is therefore on the regulator to solicit consumer input throughout the regulatory process to ensure that provision of infrastructure services is aligned with consumer expectations.

In line with regulatory best practice, the two inputs most often solicited by EAP regulators to inform decision-making are quality of service and consumer satisfaction. The survey findings indicate that the majority of the regulators have in place well structured mechanisms to consult with consumers throughout the regulatory process. Informal consultations with consumer representatives appear to be the most common mechanism in place to solicit information from consumers, being adopted by two-third of the regulators. In addition, 64 percent of the surveyed regulators have in place at least one formal consultation mechanism (i.e. public hearings and/or formal consultations with advisory bodies), with more than half of the surveyed regulators (56 percent) drawing on both formal and informal consultation processes.

Options for consumer representation

Being a diffuse stakeholder group, consumers need to rely on a representative body able to engage in the regulatory process on their behalf. Among the entities that could be tasked with the role of representing consumer rights are the following:

\(^{108}\) A few significant exceptions are to be acknowledged, namely the Consumer Forum in Malaysia and the Yayasan Lembaga Konsumen Indonesia (YLKI) in Indonesia.
In-house consumer affairs bureaux

Regulators can establish in-house consumer departments as a basic form of institutional representation of consumer interests. Economies of scope can often be achieved by entrusting the same entity with consumer representation and regulatory functions. For example, an in-house consumer department would benefit from direct access to consumer-related information that could be used to inform the representation function. The findings of the survey questionnaire indicate that in-house consumer affairs bureaux are the most common institutional option for consumer representation in the EAP region, being adopted by 42 percent of the surveyed regulators.

Consumer representation in the decision-making body

Another option is to institutionalize consumer representation in the regulatory board, the decision-making body of the regulating entity. This model is currently adopted in several African countries (such as Burundi, Ghana and Senegal), but in only a few regulatory regimes (20 percent) in East Asia. In theory, this form of consumer representation can lead to the highest rungs of consumer engagement in the regulatory process by establishing a direct channel for feeding consumer input into decision-making. In practice, the potential benefits derived from consumer representation in the regulatory board are often outweighed by its costs. In the first place, board representation may have the downside effect of trapping consumer representatives in a conflict of interest situation, by making them accountable to both the regulatory body and consumers. Aside from the risk of regulatory capture, having consumers represented in the regulatory board may bring the regulatory process to a standstill, as it empowers consumer representatives to exercise a right of veto to halt the decision-making process. In addition, the top-down appointment of consumer representatives to the regulatory board may undermine their legitimacy and accountability to the consumer constituency.

External consumer bodies

Consumer representation could also be delegated to external independent entities, such as non-institutionalized consumer associations or statutory consumer councils. Being independent from the regulator itself, external consumer bodies are better positioned than in-house consumer departments to take a stance against regulatory decisions perceived as unfair vis-à-vis consumers. As a downside effect, independent consumer bodies risk being captured by specific interest groups at the expenses of the marginalized segments of the customer base. This risk is particularly high in developing countries, where independent consumer associations may be taken over by middle class consumer groups whose interests are not necessarily aligned (and in fact are often conflicting) with those of the poorest customers. Delegation of consumer representation to an external body (such as consumer associations) is adopted by one-third of the surveyed regulators. Moreover, 30 percent of the regulators relies on more than one option for

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110 Middle-income customers advocating against tariff increases may indeed jeopardize the possibility to expand access.
consumer representation—the most common arrangement being the combination of an in-house consumer affair bureau with an external advisory body.

Overall, most of the infrastructure regimes in the region appear to have reached the rung of consultation in the ladder of consumer engagement in infrastructure regulation, most of the regulatory regimes have indeed in place well-structured processes to interact with consumers thorough the regulatory process. The findings of the survey questionnaire suggest that, while the onus is on the regulator to ensure effective consumer participation in the regulatory process, most of the regulators in the region rely on governments and service providers as well as a number of sector-specific intermediaries to interact with consumers.