Privatizing Africa’s Infrastructure

Promise and Challenge

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The last decade has seen a fundamental shift in the paradigm of infrastructure provision around the world. Governments in industrial and developing countries alike are retreating from owning and operating infrastructure and are focusing more on regulating and facilitating infrastructure services provided by private firms. This shift offers the promise of more efficient investment in and operation of infrastructure services, as well as the potential to shift the burden of new investment from public budgets to the private sector. Particularly for developing countries, infrastructure privatization may also unleash large inflows of foreign direct investment and help develop local capital markets. In addition, bold privatization programs can send a clear message to international capital markets, the wider investor community and the local populace that governments are committed to improved economic management.

No region in the world is in greater need of new investment in and more efficient operation of its infrastructure than Sub-Saharan Africa. The almost universally poor quality of the region's infrastructure directly impacts on the living standards of its people and constrains private investment in other activities. Nor could any region as a whole benefit more from enhanced flows of foreign direct investment, development of local capital markets, or unambiguous commitments to sound economic policies. Despite this, to date, Sub-Saharan Africa represents only a tiny portion of an international industry valued at over US$60 billion a year over the last decade.

This paper, prepared by the Private Sector Development Department at the initiative of the Africa Technical Department of the World Bank, examines the promise and challenge of infrastructure privatization in Sub-Saharan Africa, with particular emphasis on power, telecommunications, water, rail, ports and airports. “Privatization” covers a broad range of private participation options — such as management contracts, concessions, leases, demonopolization and divestiture. The paper places primary emphasis on mobilizing private investment in infrastructure. Other forms of private participation are considered mainly in the context of broader strategies for attracting private investment.

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Executive Summary

Africa's infrastructure — comprising electricity, gas, telecommunications, water supply and transport — trails the world, in both extent and quality. Poor infrastructure is a major obstacle to the region's economic growth, and adversely affects the living standards of its people. It has important impacts on health, education, and the capacity for effective governance as well as on the ability of industries to compete in international markets.

Despite the importance of these sectors, investments in Africa's infrastructure have too often been squandered. Service provision has been entrusted to state-owned monopolies tasked with multiple, poorly defined and often conflicting objectives, and facing weak or perverse incentives for efficiency. Investment decisions are often driven primarily by political considerations. Tariff policies typically benefit only the more affluent in society who have access to service, and even when tariffs are reasonable, collection has been weak. Failure to cover costs through tariffs leads to insufficient funds for investment, which is left to already over-burdened public budgets. Within enterprises, management is often appointed more on the basis of political loyalty than competence, and excessive staff are often employed to benefit favored groups. The poorest suffer the most from these policies, since they lack access to any services at all, or must bear the high costs of self-provision or supply from the informal sector.

The Promise of Infrastructure Privatization

Infrastructure privatization — encompassing a range of options for enlisting private sector participation — is sweeping the world. It promises increased efficiency in investment, management, and operation as well as access to private finance for investment. It can reduce government over-stretch; generate government revenues; develop local capital markets; and stimulate foreign investment. It can also signal to international investors, capital markets, and the local population that a government is committed to sound fiscal management, efficiency, and a substantial role for the private sector.

No region in the world could benefit more from infrastructure privatization than Sub-Saharan Africa. But progress to date has been slow, with the region accounting for only a tiny share of the more than 1,100 private infrastructure projects undertaken around the world since 1984. Moreover, infrastructure privatization in Africa to date has concentrated largely on management contracts and leases. While these options offer benefits, they do not require strong government commitment to the operation of infrastructure on commercial principles with cost-covering tariffs, and do not provide access to much needed private finance. For these reasons, the ultimate goal should be privatization through options that involve private investment in Africa's infrastructure.

Four Main Challenges

Realizing the potential of infrastructure privatization is not easy in any country. In Sub-Saharan Africa, four main challenges must be addressed.
1. Concerns over market size, affordability, and payment risks

Low per capita income and low economic growth may make infrastructure markets in Africa appear small and unattractive to potential private investors, and may raise concerns over whether privately financed services would be affordable to low-income consumers. In addition, a long tradition of non-payment by private and public customers in most countries seems to create unacceptable payment risks for private investors.

Closer analysis suggests that these concerns are exaggerated. Private investment for water treatment plants or independent power projects is generally forthcoming, even in small and poor countries. With regard to retail supply, there is ample evidence that significant demand and willingness to pay for reliable telecommunication services exist in Africa, with revenues per main line currently almost twice as high as the world average. In other sectors, such as electricity or water distribution, a substantial proportion of users already pay high prices to obtain services from informal providers or self provision, and countries such as Côte d'Ivoire and Guinea have been successful in implementing cost-covering tariffs. Recent progress towards regional cooperation in infrastructure projects also offers the prospect of larger projects that may be more enticing to potential investors.

Concerns regarding the affordability of cost covering tariffs are often misplaced. Traditional approaches of subsidizing tariffs usually benefit the relatively affluent members of society more than the poor, and become non-sustainable when budgets are constrained. As noted above, many of the poorest already pay very high prices through self provision or supply from the informal sector. International experience also shows that in some cases the inefficiency of the public provider can be such that better services can be obtained from a private operator at the same or even lower prices. There are also many ways to design tariff and subsidy schemes which are not only consistent with private provision, but also more likely to reach the intended beneficiaries than traditional approaches.

While payment risks are real, experience in Africa and elsewhere illustrates a number of ways of tackling this problem to enable private provision. The threat of disconnection for non-payment, coupled with measures aimed at combating fraud, have helped to substantially increase the collection ratio from private consumers in many cases. Non-payment by public entities is generally more difficult to solve because disconnection is often considered politically unacceptable. However, a range of alternative strategies have worked, even in this area.

2. Establishing adequate legal and regulatory frameworks

Private investors require clear "rules of the game" dealing with such matters as the scope and conditions of market entry, the exclusivity of any rights conferred, and the extent and form of any ongoing price and/or quality regulation. In most countries in Sub-Saharan Africa, the relevant legal and regulatory frameworks remain at an early stage of development. Moreover, many governments have weak regulatory capacity, reflecting a limited tradition of adhering to the rule of law, a scarcity of skilled resources and, in many cases, widespread corruption.

The first step should be to eliminate unnecessary restrictions on private sector participation in infrastructure, and to specify clear rules and procedures for awarding contracts or concessions. A growing number of countries are adopting laws that deal with these issues in a consistent way across the infrastructure sectors, and a similar approach would seem appropriate for many countries in Sub-Saharan Africa.
The balance between monopoly and competition in particular sectors is often hotly debated, with investors often requesting long monopoly periods. However, international experience confirms the benefits of tapping competitive disciplines to the maximum extent feasible, and this view has special force in countries where the priority is to expand investment and to reduce demands on economic regulation. If transitional monopolies are to be condoned, they should be defined as narrowly as possible in terms of duration, geographic reach and range of services covered. To take full advantage of competitive disciplines, prices of substitute services should also be deregulated.

Where there is concern over the misuse of market power by monopolistic service providers, demands for some form of price regulation may prove irresistible. In responding to this issue in the African context, the priority will usually be to maximize incentives for expanding investment, rather than to tame monopolies, which is an objective better suited to countries with more mature infrastructure industries. This suggests relatively loose controls over prices and profits, implemented in a way that reduces risks for investors. Clear rules may also be required on quality standards, environmental, safety, and health requirements as well as on any investment obligations.

Implementing regulatory frameworks in countries with limited regulatory capacity and experience poses special challenges, particularly when investors are concerned over the possibility of discretion being misused. Strategy in this area focuses on the use of relatively simple, fully-specified, and self-enforcing rules. Although establishing autonomous regulatory agencies may be difficult in many country-settings, there are a number of advantages. Regulators can be given a degree of insulation from short-term political pressures, restrictive civil service salary rules that make it difficult to recruit and retain well-qualified staff can be by-passed, and ear-marked funding through industry levies can help to sustain reforms. Creating such agencies on a multi-sectoral basis allows scarce regulatory personnel to work across sectors and facilitates learning between sectors. There is also scope to augment local resources by contracting-out certain regulatory tasks, and to support newly appointed regulators through cooperative arrangements with regulators from other jurisdictions.

3. **Dealing with non-commercial risks**

Investments in infrastructure tend to be large and immobile, and infrastructure prices tend to be politically sensitive. This makes infrastructure investments especially vulnerable to political risks, including the risk of government reneging on its regulatory commitments on tariffs or other matters; convertibility or transfer risk; war and civil disturbance; and expropriation. While there are important differences across the region, many countries in Sub-Saharan Africa are considered to be among the riskiest in the world in these areas. Unless risks can be mitigated, investors will shun the country or require much higher prices to reflect the risks involved.

Investors and governments can choose from a broad range of risk mitigation strategies. Investors may seek to protect themselves by targeting lower-risk activities (e.g., those that are less politically sensitive, those that earn hard-currency, and/or those where service can be provided through more mobile technologies); by targeting activities and/or structuring transactions in a way that gives the investor some countervailing bargaining power; by entering partnerships with the government and/or the local private sector; by transferring technologies and hiring local personnel; and/or by building comfort through gradually increased forms of private participation.
Inter-governmental mechanisms can also be used to provide comfort to private investors. At the bilateral level, these can include investment treaties, political risk insurance, or the leverage available through broader political, economic, and cultural relationships. At the multilateral level, options include political risk insurance from the Multilateral Investment Guarantee Agency (MIGA), lending or investment by the International Finance Corporation (IFC), and lending and/or partial risk guarantees from the World Bank.

4. Mobilizing local finance

Given the under-developed nature of local capital markets in most of the region, in the short- to medium-term most private investment will likely be financed from retained earnings, owners' equity and/or foreign borrowings. While this pattern of financing has advantages, there are also drawbacks, including exposure to convertibility, transfer and exchange rate risks, and greater risks of political backlash against projects with limited local ownership and financing. For these reasons, mobilizing local finance is an important element in any infrastructure privatization strategy.

There is unexploited potential for mobilizing local capital for private infrastructure projects in Africa. Before significant progress can be made, however, several preconditions must be met. Economic and political uncertainty must be reduced. Governments running significant budget deficits need to increase fiscal discipline to free up part of the existing savings for private investment. And financial intermediation needs to be improved.

The recent expansion of local stock markets in Sub-Saharan Africa can assist in mobilizing local equity for infrastructure projects. Private pension funds and other institutional investors usually find the long terms and relatively stable returns of infrastructure investments attractive, and facilitating the emergence of these entities can also help to mobilize local finance. However, while levels of uncertainty remain high, mobilization of long-term local debt is likely to remain difficult. In the interim, local leasing companies may provide financing for smaller infrastructure investments.

While development of local financial markets facilitates infrastructure privatization, infrastructure privatization can itself play a powerful role in developing local capital markets. The return profile of infrastructure projects can attract new investors to the market, and the often large volumes of securities involved can make local stock markets significantly more liquid. International experience also demonstrates that infrastructure privatization, coupled with credible macro-economic reforms, can constitute a powerful catalyst for repatriating flight capital, which was estimated to amount to 85 percent of Sub-Saharan Africa's GDP in 1991.

Elements of A Strategy For The World Bank Group

The World Bank Group — comprising the World Bank, the IFC, and MIGA — is already actively assisting Sub-Saharan Africa to realize the promise of infrastructure privatization. In view of the potential benefits involved, however, there is room for a more intensive and possibly broader strategy for the World Bank Group. Some of the possible elements of such a strategy are outlined below.

A first step would be to expand efforts aimed at promoting understanding of the potential for, and demands of, successful infrastructure privatization. Specific activities might include: giving greater prominence to these issues in dialogues with governments, investors,
and other donors; undertaking cross-sectoral assessments of the issues and options in certain countries; and sponsoring private infrastructure promotion programs, possibly modeled on earlier experience with petroleum exploration promotion projects.

In regard to the market size issue, the priority for the World Bank and other donors should be to ensure that their resources foster, rather than crowd out, opportunities for private investment. The Bank should also continue its support for regional integration and trade liberalization initiatives. In some cases, the Bank can also assist in dealing with affordability concerns through various subsidy mechanisms. For example, a system of performance-based fiscal awards could be devised, which would minimize market distortions and leave incentives for efficiency undiminished.

In relation to legal and regulatory framework issues, the Bank Group can continue and, where necessary, intensify its activities supporting governments in this critical area. In addition to its long-established role of advising on the establishment of such frameworks, the Bank can help countries to deal with post-privatization challenges by supporting newly appointed regulators.

With respect to non-commercial risks, the Bank Group should continue to focus on encouraging governments to undertake the necessary reforms at the sectoral and national levels to reduce these risks. In appropriate cases, political risk insurance from MIGA, lending or investment by the IFC, and lending or partial-risk guarantees from the World Bank can assist in mitigating non-commercial risks.

Members of the Bank Group can continue to support the development of local capital markets and improve the coordination of their efforts in this area.

Last but not least, the powerful demonstration effects of successful infrastructure privatization in Sub-Saharan Africa should not be underestimated. The Bank Group can play a role in helping to create and duplicate some of the African success stories in this area. Some such success stories already exist, and the Bank Group can leverage their demonstration effect through appropriate dissemination programs. To increase the pool of success stories, the Bank Group could focus intensively on a limited sample of promising candidates for private infrastructure projects in the region.
I. Africa’s Infrastructure: the Promise and Challenge of Privatization

Africa’s infrastructure — electricity, gas, telecommunications, water supply and transport — lags behind the rest of the world’s, in both extent and quality. Enlisting private sector participation in Africa’s infrastructure offers enormous promise but also a number of special challenges. This chapter provides an overview of the main issues associated with infrastructure privatization in Sub-Saharan Africa.

A. AFRICA’S INFRASTRUCTURE

Sub-Saharan Africa trails the world in the quantity and quality of its infrastructure, albeit with some diversity between countries and sectors (see Box 1.1). This weakness presents a major obstacle to economic growth, and can have severe negative consequences for the living standards of its population.

Water has a major impact on health — yet on average only 42 percent of the region’s population has access to safe water. Telecommunications and transport also have a significant impact on levels and patterns of development, affecting, inter alia, access to health and education services and the capacity for effective governance.

No less important, poor infrastructure represents a major constraint on industrial competitiveness and the development of the private sector. Infrastructure deficiencies are routinely listed among the top constraints to private sector development in surveys of potential foreign investors and in World Bank Private Sector Assessments.

The potential benefits of increasing the quality and quantity of Africa’s infrastructure are enormous. For example, it has been estimated that each new telephone line added in the region adds US$4,500 to GNP — a far higher contribution than in developed markets.1 Similarly, in Nigeria, it was estimated in 1993 that inefficiencies in the power sector alone created economic losses of over US$800 million annually.2

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1 World Bank (1994a).
2 ESMAP (1993).
Box 1.1: Sub-Saharan Africa's Infrastructure — A Snapshot

The data presented in Annex A offer an indication of the extent and quality of Sub-Saharan Africa's (SSA) infrastructure. While it is difficult to generalize across such a large and diverse region, several clear patterns emerge.

Electricity. On average, only 45 percent of households in SSA have access to electricity, ranging from just 1 percent of households in Burundi to 96 percent in Senegal. This is low in comparison with the average for World Bank-client countries in Latin America and the Caribbean (LAC), at 75 percent. System losses in SSA average 17 percent of output, ranging from 4 percent in Cameroon and Côte d'Ivoire to 40 percent in Uganda. Service interruptions are an everyday occurrence through most of SSA, leading many enterprises and more affluent households to install costly auto-generation facilities.

Water. On average, only 42 percent of SSA's population has access to safe water, ranging from just 7 percent in Djibouti to 100 percent in Mauritius. This is substantially lower than the average for World Bank-client countries in East Asia and the Pacific (EAP) at 68 percent and in LAC at 76 percent. System losses average over 30 percent of total provision, ranging from a reported 16 percent in Côte d'Ivoire to 47 percent in Ghana. In response to failure by public providers, many enterprises drill and operate their own boreholes, while low-income consumers often resort to private vendors who often charge more than the costs of supply by an efficient public supplier or private operator.

Telecommunications. The number of telecommunications mainlines per 100 people averages only around 1.2 across SSA, ranging from 0.1 in Chad, Niger, Zaire and Mali to 8.9 in South Africa. This compares with 4.9 in EAP and 6.3 in LAC. The official waiting lists are extremely long, with applicants often having to wait for five years or more. Fault rates per 100 mainlines per year in SSA average 124, ranging from 17 faults in Sierra Leone to 327 in Nigeria, much more than in EAP (6) and LAC (23). Call completion rates in SSA are of the order of 20-30 percent.

Roads. The density of paved roads per capita in SSA averages around 339 km, ranging from just 56 km per million people in Chad to 2,279 km in Liberia. The share of roads in good condition averages only 42 percent, ranging from just 10 percent in Uganda to 95 percent in Mauritius. Poor transport links impose major costs on enterprises and impede the delivery of health, education, and other services to rural populations.

Sources of Public Failure: Weak or Negligible Commitment to Commercial Principles

There is no question that political and economic instability, low per capita incomes and often challenging geographic conditions have significantly constrained the development of Africa's infrastructure. At the same time, there is abundant evidence that investments made in the sector have often been squandered through policies that gave prominence to short-term political and other objectives. Since independence, infrastructure provision has usually been entrusted to state-owned monopolies which have established a poor reputation across Africa (see Box 1.2).

State-owned infrastructure enterprises typically must pursue multiple, poorly-defined, and conflicting objectives, and face weak or even perverse incentives for efficient performance. Investments have often been driven by political objectives — the African landscape is littered with “white elephants.” Tariff policies typically benefit the more affluent members of society, who already have access to services, rather than ensuring sufficient funding to expand service to the wider population; even when tariffs are reasonable, collection has been weak (see Box 1.3). Within enterprises, management has often been appointed more on the basis of political loyalty than professionalism, and public posts have been a source for amassing private gains. Staffing decisions often reflect a desire to create jobs for favored groups without regard for efficiency.
Chapter I: The Promise and Challenge of Privatization

Box 1.2: Parastatals in Africa

The role of parastatals in Africa was recently characterized in the following terms:

"[A]s time went on the parastatals played a key role in the distribution of political patronage, not least because in most countries they were major employers and thus could be used to provide jobs to the relatives or cronies of politicians. Much of their expenditure was justified in political terms. Those who made investment decisions in the public sector did not, by and large, have to live with them. No one was held responsible for white elephants. Government officials and parastatal managers were well protected from the consequences of their actions. The same, it has to be said, applied to the officials in donor agencies which provided much of the investment capital. Finally, as one-man rule emerged as the dominant pattern of state government, decisions were increasingly influenced by the hidden kickbacks for particular individuals."3

Nigeria's state-owned energy sector in the early 1990s typifies some of the worst failings of the African public monopoly model (see Box 1.4). While deficiencies in the public enterprise model are hardly unique to Africa, its weak administrative capacity and legacy of political instability exacerbate the problem.

User Responses to Poor Public Performance

In response to public failure, some private sector activity has operated side-by-side, through either self-provision or the informal sector.

Many businesses and households have resorted to self-provision, often at high cost. For example, according to a 1988 study of 179 Nigerian manufacturers, 92 percent of firms surveyed owned electricity generators, and 44 percent had boreholes to assure their own private water supply. In the face of chronically unreliable public services, many also had acquired radio equipment for communications (37 percent of firms) and vehicles to transport personnel (37 percent) and freight (63 percent). For firms with 50 or more employees that could

Box 1.3: Electricity Tariffs and Collection Rates in Africa

A review of recent Bank reports on electricity in Africa reveals some of the key performance failures from the perspective of tariff levels and collection.4

Cost-covering Tariffs. A recent report found information on electric supply costs in Sub-Saharan Africa to be unreliable and insufficient to allow meaningful analysis of revenues and cost of service. However, a look at average revenues across countries did provide a rough indication of the levels of cost recovery achieved in Sub-Saharan Africa. In some countries, since the late 1970s prices have shown a decreasing trend towards levels as low as 3-4 cents/kWh. Such prices are lower than long-run marginal cost (LRMC) and prices in most countries. In Asia and Latin America, with few exceptions the price of electricity is in the range of 7-14 cents/kWh, while in OECD countries 13 cents/kWh is the average tariff. Only a few African countries collect 18-22 cents/kWh (Benin, Senegal, Niger and Togo). None of the countries under review had incorporated tariff setting rules in their laws, or set up Independent tariff boards. In Uganda, tariffs were increased to reflect their estimated LRMC in July 1993, and average around 10 cents/kWh. There is concern over maintaining real value of prices however. In Ethiopia, tariff increases are being phased in over five years but even then would cover no more than 72 percent of LRMC.

Tariff Collection. Setting tariffs at cost-covering levels is insufficient if those tariffs are not collected. The report found that for two out of three African countries in the early 1990s, collection of electricity bills was worse than the Bank-wide median. Only 24 percent of outstanding accounts receivable was less than 90 days old; another 24 percent was between 90 and 150 days, and the remaining 52 percent was over 150 days. Arrears tended to increase with the price: both are low in Zimbabwe and Malawi, both are high in the Central African Republic, Benin and Mali. But the worst records belonged to Nigeria, with 460 days for only 3.2 cents/kWh, and Sierra Leone, with 390 days for 10.8 cents/kWh.5

3 McCarthy (1994).
4 See World Bank (1995e); ESMAP (1995a,b).
practice economies of scale, the extra costs of private power generation amounted to some 10 percent of the total machinery and equipment budget; for smaller firms, the burden was as high as 25 percent. The cost of boreholes and treatment facilities was about 1 percent of the total value of machinery and equipment, with the share higher for small firms than for large ones by about 50 percent. Because regulations prevented the sale of excess power capacity, businesses large and small were operating private generators at no more than 25 percent of capacity on average.6

Self-provision of electricity is common across the region. In Uganda, most large customers maintain stand-by diesel generators.8 In Guinea, between 1983-92 the private sector installed for its own use some 70 MW of power generation, and in 1993 produced some 109 GWh of electricity, almost as much as the national electric utility.9

Substantial self-provision of infrastructure is also the norm for major resource or industrial projects. In Mali, for example, the developer of a US$400 million gold mine is spending US$25 million installing a water pipeline, and will build and tar its own roads and generate its own electricity.10 Similarly, Volkswagen repaved the road from its Nigerian factory to Lagos to ensure that the newly-assembled cars survived the trip intact.

For low-income consumers, relief from the failure of public providers often comes through the informal sector. The best-known examples are private water vendors who use trucks or smaller receptacles to haul water either for distribution at central locations or to individual dwellings. In some places, private vendors served 90 percent of households, and in several places purchases of private water amounted to more than 30 percent of household income (see Table 1.1).

7 ESMAP (1993).
8 ESMAP (1995b).
Table 1.1: Private Water Vendors in Africa

<table>
<thead>
<tr>
<th>Place</th>
<th>Households served by vendors (%)</th>
<th>Price/liter vended water (US$)</th>
<th>Share of household income (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandera, Kenya</td>
<td>90</td>
<td>0.040</td>
<td>&gt;30</td>
</tr>
<tr>
<td>Biourbet, Senegal</td>
<td>90</td>
<td>0.008</td>
<td>3</td>
</tr>
<tr>
<td>Gankida, Nigeria</td>
<td>15</td>
<td>0.020</td>
<td>..</td>
</tr>
<tr>
<td>Ibi, Nigeria</td>
<td>40</td>
<td>0.040</td>
<td>&gt;30</td>
</tr>
<tr>
<td>Boundiali, Côte d’Ivoire</td>
<td>50</td>
<td>0.005</td>
<td>3</td>
</tr>
<tr>
<td>Guidan Rouondji, Niger</td>
<td>40</td>
<td>0.007</td>
<td>26</td>
</tr>
</tbody>
</table>


Reform Efforts Under Public Ownership and Management

In response to a growing appreciation of the problems of the traditional public enterprise model, many governments in Africa and elsewhere have attempted to improve the performance of state-owned enterprises through performance contracts with public managers and/or corporatization. These reforms attempt to give greater emphasis to commercial principles and provide a degree of insulation from short-term political influences.

In cases where political commitment and administrative capacity are reasonably strong, corporatization has provided real benefits. For example, this is the case of the Botswana’s Water Utility Corporation (BWUC), which for most of its existence has been able to carry out its operations without interference from political authorities. BWUC charges commercially-oriented tariffs, which have been quickly adjusted in the past in order to manage demand. At 25 percent, overall technical losses are lower than in most other African countries and a strict disconnection policy is applied in case of non-payment, ensuring that accounts receivable remain below 2 percent of the total amount collectible.11

In the vast majority of cases, however, performance agreements have had a poor record of sustaining reforms. In Ghana and Senegal, for example, governments reneged on their commitments to, inter alia, increase tariffs and promptly pay bills of government and other state-owned enterprises.12 Even in Botswana, problems have started to emerge as BWUC is finding it increasingly difficult to adjust its rates as required. Problems stem from the conflicting objectives which the government is tempted to pursue under these types of arrangements. There is a growing realization that combining within government the roles of owner, regulator, and operator is a poor institutional structure for attempting to operate on commercial principles. In most cases, governments will find it difficult to implement the range of internal and external disciplines on which the effectiveness of a corporate entity depends. Reform efforts under public ownership rarely prove sustainable given the absence of an independent constituency to oppose politically motivated backsliding.

B. THE PROMISE OF INFRASTRUCTURE PRIVATIZATION

Countries around the world are retreating decisively from the public enterprise model in all sectors, including infrastructure. Since 1984, over 550 infrastructure enterprises have been

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privatized in some 86 countries, and over 580 private greenfield projects are underway in some 82 countries. On average, private investment activity in infrastructure amounted to about US$60 billion a year over the last decade. However, as Figure 1.1 demonstrates, the majority of this activity has been outside Africa.

**Figure 1.1: Sub-Saharan Africa Lags the World in Infrastructure Privatization**

Sub-Saharan Africa lags behind the rest of the world in harnessing the benefits of private participation in infrastructure, especially in the crucial power and waste/water sectors. Of 1,161 private infrastructure projects concluded since 1984, Sub-Saharan Africa has seen only 80, or about seven percent.

![Graph showing infrastructure projects by region and sector](image)

*Source: World Bank Private Infrastructure Project Database*

**Potential Benefits of Infrastructure Privatization**

In this report, “infrastructure privatization” refers to a broad range of options for involving the private sector in infrastructure services, from management contracts and leases to concessions, demonopolization and full divestiture (sale) of enterprises.

The principal source of benefits from privatizing infrastructure is the establishment of an arm’s length relationship between the infrastructure provider and short-term political pressures. While commercialization and corporatization initiatives promise this under public ownership, in practice it has proven virtually impossible to keep politics at bay while the government is the owner, regulator, and operator, however these roles are allocated administratively within the government. Managers of public enterprises have limited leverage to negotiate binding government commitments to tariff or other policies; in contrast, potential private investors will withhold investment until they are satisfied that the government’s commitments are credible. Similarly, public enterprise managers are typically in a weak

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position to insist that governments comply with their undertakings; in contrast, private operators may sue or withdraw service or capital. A corollary is the capacity of government to insist that the operator comply with agreed undertakings — private firms may be sued or ejected and replaced by rival firms; in contrast, public enterprise management is often insulated from such actions by political relationships.

The many specific benefits of infrastructure privatization follow from this fundamental change in institutional relationship. Those benefits include:

1. Increased Efficiency in Investment, Management and Operation

Superior efficiency in investment, management, and operation flows from several distinct but complementary factors.

(a) Commitment to Cost-Covering Tariffs: This is the key to allocative efficiency and to the provision of adequate funds for infrastructure maintenance and expansion. Private firms exposed to commercial or investment risk will require a credible commitment to cost-covering tariffs, and will withhold participation without this assurance. They will also be more diligent in recovery and collection practices, as illustrated by the major turnaround in billing and collection practices in countries like Guinea-Bissau, Côte d'Ivoire and Guinea.¹⁴

(b) Improved Incentives for Operational Efficiency: With profitability on the line, private firms under appropriate tariff regulation will face strong incentives to contain costs and increase productivity. This is evident in lower cost overruns for new projects, lower staffing levels, more rapid adaptation of new technologies and processes, and enhanced efforts to improve billing and collection practices.

(c) Opportunities to Tap Competitive Discipline: It is typically more difficult to draw on competitive discipline in infrastructure than in other activities, as some elements have natural monopoly characteristics. However, competition is feasible in many activities, with examples including cellular and long-distance telephony, trucking, and power generation. Moreover, even when competition in the market is not feasible, it is possible to obtain benefits by promoting competition for the market, such as by awarding time-bound franchises through a competitive process. Competitive mechanisms of these kinds are not feasible if the state retains a monopoly over infrastructure provision, and it is difficult to sustain effective competition between two or more state-owned enterprises.

(d) Access to Management Expertise and Technology: Private infrastructure arrangements allow countries to access modern technology and skills and expertise in running complex enterprises in a commercial manner. Considerations of this kind will be particularly important in Sub-Saharan Africa, where skilled resources are limited and have a high opportunity cost.

¹⁴ See Boxes 1.5, 1.6, and 1.7 respectively.
2. **Access to Private Finance**

When assured of predictable revenue flows and sound management, private firms are prepared to commit owner’s equity and to borrow on their own account, without the need for full sovereign guarantees. For example, a US$70 million independent power project (IPP) in Côte d’Ivoire is being financed from private sources, without burdening taxpayers. The need for private infrastructure finance in Africa is acute. In the power sector alone, it has recently been estimated that some $18 billion needs to be mobilized over the next decade in just 21 countries.  

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3. **Reducing Government Over-Stretch**

Infrastructure privatization permits governments to focus on the principal policy challenges of economic and social development, without distraction by day-to-day operational concerns of infrastructure enterprises. This benefit can be particularly important where government capacity is weak and skilled human resources are already over-stretched.

4. **Government Revenues**

A corollary of access to private finance is reduced public expenditure and indebtedness. In addition, where privatization is accomplished through the divestiture of existing enterprises the revenues generated may be used to pay down public debt. When an infrastructure enterprise is operating efficiently, it may also be the source of ongoing taxation revenues, in contrast to the large budget-drains typically represented by public enterprises in many countries.

5. **Opportunities for Capital Market Development**

The large scale and predictable cash flows associated with appropriately regulated infrastructure projects allow them to issue debt and equity instruments which are often highly valued by institutional investors. Infrastructure privatization can thus be used to deepen local capital markets and sometimes to induce the return of flight capital.

In a divestiture of infrastructure enterprises, privatization may also be used to widen participation in local capital markets and, hence, promote “popular capitalism,” (e.g., UK and Hungarian privatization programs). Allocating a portion of shares to the local population may have several concrete benefits. As many countries have discovered, this strategy may help defuse domestic opposition to privatization. No less important, this strategy changes the political economy of infrastructure regulation, as it creates a broader domestic constituency having an interest in the government upholding its commitments to cost-covering tar-

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15 See Box 1.9.
16 Gutiérrez (1996)
17 In some cases revenues can also be generated through concessions, such as where the concession contract is awarded on the basis of a fixed tariff and maximum revenue paid to the government, rather than the lowest tariff. In essence, the bidders in the system are paying for the monopoly rents created by the exclusive contract.
18 See Chapter V.
Chapter 1: The Promise and Challenge of Privatization

iffis and other elements of sound infrastructure policies. Côte d'Ivoire provides an example. Even though SODECI, the private water company, has limited capital (about US$4 million) and does not have to raise money to invest in the infrastructure, the sale of a majority of its shares to domestic investors helped increase the liquidity of the local capital market. It has also helped create a domestic constituency in favor of the private operation of the water system.

6. Potential to Stimulate Foreign Direct Investment

Experience in reforming economies in Latin America and Eastern Europe confirms the potential of infrastructure privatization to catalyze large inflows of foreign direct investment (FDI). This is particularly important in Sub-Saharan Africa, where FDI is very low (see Figure 1.1).

![Figure 1.2: Foreign Direct Investment in Sub-Saharan Africa: 1990-1995](source: World Debt Tables 1996)

7. Potential Signaling Device to International Investors and Populace

As further discussed below, infrastructure privatization is not easy. It requires governments to enter a number of commitments related to sound infrastructure policies, including commitments to cost-covering tariffs, and adoption of a "hands-off" approach to managerial and operational decisions in a large sector of the economy. There may also be transitional issues similar to those associated with privatization of other large enterprises, including possible labor redundancies. Overcoming these challenges in the face of short-term political pres-

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19 See Box 1.6.
Privatizing Africa's Infrastructure

sure not only promises benefits of the kind outlined above, but can also send a clear signal to international investors, capital markets, and the local population that the government is committed to sound financial management, efficient policies, and a substantial role for the private sector. Infrastructure privatization can thus have strategic significance well beyond a single enterprise or industry, and can play an especially important role for governments intent on restoring a country's tarnished reputation and credibility.

Benefits Associated with Different Forms of Private Participation

While privatization in competitive industries is usually regarded as synonymous with divestiture of state ownership, infrastructure privatization comprises a broader range of private participation options. The nature and extent of benefits from infrastructure privatization vary according to the form of private participation involved, with least benefits from management contracts and fullest benefits from divestiture of existing state-owned enterprises. The key potential benefits of different forms of private participation are summarized in Table 1.2.

Table 1.2: Main Forms and Potential Benefits of Infrastructure Privatization

<table>
<thead>
<tr>
<th></th>
<th>Management Contract</th>
<th>Lease</th>
<th>Concession/BOOT</th>
<th>Demonopolize/BOO</th>
<th>Divestiture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Expertise</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Tariff Discipline</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Access to Private Capital</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Capital Market</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Development</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Potential Capital Revenues</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

A description of the key characteristics of each of the main forms of infrastructure privatization and a more detailed analysis of their respective benefits are presented below, together with illustrations from recent experience in Sub-Saharan Africa.20

1. Management Contracts

Under a management contract, a private firm manages the operations of a state-owned enterprise, without committing its own investment capital or accepting full commercial risks for tariff collection or other matters. International experience shows that two key elements are required for successful management contracting. First, the contractor must be given enough autonomy to implement commercial reforms, including the hiring and firing of labor. Second, the contract must contain effective incentives for good performance, including penalties for failure to meet agreed performance goals and/or bonuses for superior performance. In infrastructure enterprises,

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20 As discussed in Chapter IV, most of these options may also be implemented through public private joint-ventures, although there will often be an additional set of costs and benefits with that approach.
these incentives are often tied to improving billing and collection and reducing costs and system losses. But even contracts that exhibit these features have their weaknesses. As management contracts do not require the government to commit to cost-covering tariffs, there is often weak tariff discipline, and in many cases non-payment by the government itself is a major impediment (see Box 1.5 on experience in Guinea-Bissau). Related to this, the contractor does not contribute any investment capital.

Management contracts are sometimes seen as an attractive option when government commitment to fuller private participation is weak, or where it is expected that a management contractor can help to improve information about the enterprise and its market before more ambitious private participation options are considered. Whether information enhancement alone warrants the delays and additional complications involved in using such contracts before undertaking more substantial reforms requires careful assessment on a case by case basis. Contractors associated with international utilities may also be motivated in part by the potential to obtain a privileged position on a subsequent concession or divestiture; the contractor will have superior information on the enterprise and its market, possibly deterring other potential bidders and making introduction of open competitive bidding much more difficult. Indeed, in some cases the contractor may have incentives to manage the enterprise in a way that precipitates a fuller privatization in which it expects to enjoy such a privileged position, even if this means incurring short-term losses through penalties under the management contract. Thus, management contracts should not be seen as a "risk-free" option, and are probably only advisable when more ambitious forms of private participation are considered infeasible in the foreseeable future.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>1987</th>
<th>1990</th>
<th>1993</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed Capacity (MW)</td>
<td>7.2</td>
<td>10.3</td>
<td>11.1</td>
</tr>
<tr>
<td>Operable Capacity (MW)</td>
<td>2.2</td>
<td>7.5</td>
<td>9.9</td>
</tr>
<tr>
<td>Capacity Factor (%)</td>
<td>32.0</td>
<td>51.0</td>
<td>42.0</td>
</tr>
<tr>
<td>Fuel Consumption (kg/kWh)</td>
<td>0.300</td>
<td>0.254</td>
<td>0.275</td>
</tr>
<tr>
<td>System Losses (%)</td>
<td>30.0</td>
<td>26.0</td>
<td>24.0</td>
</tr>
<tr>
<td>Electricity Sales (millions kWh)</td>
<td>14.0</td>
<td>28.0</td>
<td>27.0</td>
</tr>
<tr>
<td>Average Revenue (US$/kWh)</td>
<td>0.12</td>
<td>0.25</td>
<td>0.22</td>
</tr>
</tbody>
</table>

By the beginning of 1994 serious problems had become evident. Despite economic tariffs, the utility was unable to generate enough revenue to finance expansion—or even, at times, current operations—leading again to shortages and reductions in service quality. This precarious financial condition was due to the utility's inability to collect payments. The government demanded continued service for "critical" functions even when its unpaid bills were causing financial distress. And in the private sector, fraudulent connections were rampant despite the utility's efforts to prevent them.

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Box 1.5: Management Contract in Guinea-Bissau's Electricity Sector

Introducing a five-person management team under a foreign management contract improved the performance of Guinea-Bissau's national electric utility. Previously, service interruptions had been chronic, and most areas had electricity only a few hours a day. Under a contract where the management team's remuneration was based 25 percent on its performance, the utility showed a quick turnaround, as indicated by statistics for 1987 and 1990. But more recent experience illustrates the limitations of management contracts in sustaining performance.

2. **Leases**

Under a lease, a private firm operates and maintains the state-owned enterprise at its own commercial risk, with income derived directly from tariffs. Except for agreed upon maintenance obligations, however, the lessee has no obligation to invest in the infrastructure.

Leasing thus requires the government to commit to tariffs that cover at least operating and maintenance costs, and gives the operator powerful incentives to ensure tariffs are collected and operating costs are minimized. While leases thus constitute a stronger form of private participation than management contracts, weaknesses remain. Responsibilities for operation and maintenance, on the one hand, and for investments, on the other, are conferred upon different entities, yet are often difficult to distinguish unambiguously. This can lead to difficulties in coordinating investment decisions and operating needs, and public authorities and the lessee often blame each other for resulting performance problems. Moreover, as the public authority retains responsibility for financing investment, budget constraints can lead to deterioration in the quality of the infrastructure, hindering the performance of the operator. In these conditions, the lessee might seek a minimum revenue guarantee which would dull his incentives to perform efficiently and to exert pressure on the authority to adopt adequate investment and tariff policies. Experience in Côte d'Ivoire before 1987 illustrates these problems (see Box 1.6).
Box 1.6: Côte d'Ivoire's Water Supply — Before and After 1987

SODECI is an Ivorian company owned 48 percent by local interests, 48 percent by Saur, a French water distributor, and 4 percent by a government investment fund. It started operations with the water supply system in Abidjan, the capital city, some 30 years ago. In 1974 it became responsible for water supply in other urban and rural centers in the country and for the operation of the sanitation system in Abidjan. Tariffs collected by SODECI comprised SODECI's revenues, and an additional part transferred to two publicly administered funds set up to cover debt service payments and investments in the infrastructure. The Water Directorate and the Ministry of Public Works and Transport were in charge of elaborating and implementing the investment program. SODECI was not required to be consulted but was obliged to maintain and operate the additions made to the existing system. SODECI was however guaranteed compensation if the amount of water actually consumed was less than forecast.

In urban areas, the percentage of the population with access to drinking water rose rapidly (to reach 87 percent in Abidjan and 60 percent in other urban centers); efficiency also improved (leakages of only 12 percent; collection rate of 98 percent; less than eight employees per 1000 connections). However, the financial situation of the sector progressively deteriorated. Investment decisions, made without consulting SODECI, were based on extremely optimistic consumption forecasts and required extensive borrowing by the authorities. When the forecasts failed to materialize, SODECI's revenues were protected by allowing it to retain part of the sums which should have been allocated to the construction fund. In 1986 the financial crisis was such that no investment could be made.

A new contract was signed in 1987 in an attempt to address these problems. To improve coordination between investments and operating needs, SODECI was given responsibility for submitting investment plans to the Water Directorate for renewals, extensions and social connections. SODECI's revenue guarantee was canceled in an effort to ensure that the difference between its share of the tariff and the price collected from the users was actually allocated to debt payments and investments. SODECI itself now administers the funds allocated to investments. It has the right to carry out all construction works with a value of less than CFAF 80 million (and gets paid for these works according to a price schedule, negotiated as part of the 1987 contract and covering a wide range of different types of works to be executed). If the value of the works exceeds this sum, SODECI has the right to present a bid or to organize the bidding procedure. Today, SODECI provides service close to the standards of industrial countries at a cost to consumers which is no higher than in neighboring countries with similar economic conditions or in members of the CFA franc zone, where tariffs do not cover costs and service lags behind. SODECI's shares are one of the main items traded on Abidjan financial market, and the company has distributed dividends to its shareholders. The company has also paid taxes since its inception.

Some problems remain however. Public users do not pay their bills, and, as a result, SODECI seeks compensation by keeping the share of the tariff which should be allocated to debt payments. Also, there are some indications that SODECI makes excessive profits on its activities as a constructor.

Guinea's lease for water supply (see Box 1.7) reflected the lessons of the pre-1987 Ivorian experience. The lessee is closely involved in the planning of the construction works to be carried out. In addition, self-financing of the sector has also been considered essential. However, because of very low water tariffs, this objective could not be achieved immediately in Guinea, and a progressively decreasing subsidy mechanism has been put in place. Unfortunately, as in Côte d'Ivoire, non-payment by public users remains a major problem and, in addition, lack of monitoring on the part of public authorities probably results in excessive profits for the operator on the construction works which it carries out.
Box 1.7: Guinea’s Lease for Water Supply

When Guinea’s water supply sector was restructured in 1989, it was one of the least-developed in West Africa. At the time a new autonomous public water authority, SONEG, took over ownership of the urban water supply infrastructure and assumed responsibility for sector planning and investment. SEEG, 49 percent government-owned and 51 percent owned by a foreign consortium, was created to operate and maintain the system’s facilities.

Under the ten-year lease signed with SONEG, SEEG is responsible for making new connections and for operating and maintaining the system at its own commercial risk. Its remuneration is based on user charges collected and fees for new connections. SEEG also benefits from improvements it achieves in the collection ratio, from reduced operating costs, and from reductions in unaccounted-for water.

SONEG is responsible for works on the main pipes (greater than 160 mm in diameter). SEEG can bid for the contracts for these works, unless it has been given responsibility by SONEG for overseeing the works carried out by other contractors. As SONEG has ultimate responsibility for capital financing, it has strong incentives to seek adequate tariffs and to make prudent investments based on realistic demand forecasts.

To make sure the necessary tariff increases would be affordable, the lease contract included an innovative cost-sharing arrangement. Under the agreement between the government, SONEG, SEEG, and the World Bank (the external financier), the consumer tariff was to be adjusted gradually from the first to the tenth year of the contract. During this period, the World Bank agreed to assume a declining share of the foreign exchange expenditures of operation, and the central government agreed to cover the full cost of water. Tariff increases have to date exceeded the planned schedule, rising from US$0.12 per cubic meter in 1989 to about US$0.90 in 1995. Despite higher tariffs, the collection ratio for private customers has increased dramatically — from less than 20 percent to around 85 percent in 1995 — and technical efficiency and service coverage have improved.

While these benefits are significant, the arrangement is not without its weaknesses. The government — which accounts for over 40 percent of SEEG’s total revenues — has failed to pay its bills, and SEEG has responded by withholding payments to SONEG that are needed to finance investments. There have also been concerns over slow progress in reducing unaccounted for water (currently around 47 percent), a problem probably due, at least in part, to the fact that SEEG does not have to pay for the raw water that it distributes. Finally, some observers consider SONEG’s monitoring of SEEG inadequate. As a result they suspect that SEEG has been slow to expand connections, since the operator prefers to focus on its construction activities, for which it is a contractor bearing commercial risks, rather than on activities for which it bears commercial risks, such as expanding connections. These and related issues will likely be subject to increased scrutiny in the lead up to the renegotiation of the contract in 1999.

3. Concessions

Under a concession, the private operator manages the infrastructure facility, operates it at its own commercial risk, and accepts investment obligations, whether to build a new facility or to expand or rehabilitate an existing facility. A typical contract has a fixed term and involves transfer of the assets back to the state at the end of the term, when it may be re-bid. The concession is a common model for water, ports, airports and toll-roads, where governments desire private investment but do not wish to relinquish rights to ownership of sector assets in the long term. Although the term “concession” is subject to many differing interpretations, it can include private projects constructed under build-own-operate-transfer (BOOT) terms. Cameroon provides an example of a concession in the airport sector (see Box 1.8).

22 World Bank (1994b); see also Brook Cowen (1996).
23 For example, in some legal systems “concession” is used to refer to a right to undertake an activity for a specified period of time, without affecting ownership of the assets involved. In this sense it may also be used in competitive segments — such as cellular telephony — whereas the traditional “concession,” which was linked to specific fixed assets, implied a degree of exclusivity.
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Box 1.8: Cameroon’s Airport Concession

Since the mid-1980s, Cameroon’s airports have suffered from growing service inefficiencies. The problem was exacerbated by a large decline in both passenger traffic and freight volume at the main international airport at Douala between 1986-92; improvements in road transport between Douala and Yaounde; and the government’s inability, under severe financial distress, to invest in modernization. The government realized that it did not have the necessary funds to operate and maintain Yaounde Airport or to finance equipment needed for Maroua Airport. With these difficulties in mind, in 1991 the government embarked on a privatization program to improve the efficiency and competitiveness of its fourteen airport facilities.

In August 1994, the government entered into a fifteen-year concession agreement with Aéroports de Paris (ADP) whereby seven of the government’s fourteen airports would be managed by a new joint-venture company, Aéroports du Cameroun (ADC). ADC’s ownership was structured as follows: ADP (34 percent); Government of Cameroon (29 percent); Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar (ASECNA) (20 percent); Cameroon Airlines (CAMAIR) (8 percent); and small private airlines and a major local bank (9 percent). The new company has a mandate to improve the management and efficiency of airport operations and investments and to generate capital, through self-financing, for future maintenance and investments. Along with managerial and operational control, the government transferred to ADC full authority to set ground handling and other non-aeronautical charges. ADC is also responsible for establishing air and landside charges after agreement with major airport customers and in line with full cost recovery. The government retains the right of final approval.

ADC is expected to embark on an investment program amounting to CFAF 9 billion over a fifteen-year period to renovate and expand the five major airports. The investment program is split into two parts, with a CFAF 4.1 billion high-priority renovation program financed mainly by Caisse Francaise de Développement, the French development agency, and the remainder financed from the fourth year of operation by ADC from internal resources.

Although the concession arrangement is expected to improve performance significantly, there has been criticism of aspects of the process and outcome. These include the lack of competitive bidding in selecting the technical partner; the continued large equity participation by the government in the operating company; and the concession agreement’s lack of clarity concerning investment commitments and performance criteria. There have also been issues arising from CAMAIR’s non-payment of air and landside charges to ADP.

4. Demonopolization and New Entry

The concession approach typically involves temporary transfer of a state-owned facility to a private operator, or the construction of a new facility on condition that it be transferred to the government at the end of the concession period. An alternative approach is to demonopolize a market segment in whole or in part, and allow private investors to enter the market at their own risk. New private entry permitted in this way may be complementary to the existing public provider or in competition with it. An example of the former is the new independent power project (IPP) in Côte d’Ivoire, which will sell power to the state-owned utility (see Box 1.9). An example of the latter is cellular telephony in Ghana (see Box 1.10), where private operators essentially compete with the incumbent (and with each other) in supplying demand for telephone services.

Box 1.9: Demonopolization — Côte d'Ivoire’s Independent Power Project

An alternative to reforming the management or ownership of an incumbent SOE is to permit new private sector players into the market. Strategies may be either to complement the SOE's service or to provide direct competition to it. An example of the former is provided by Côte d'Ivoire's new Independent Power Project, the first in Sub-Saharan Africa.

In 1990, Côte d'Ivoire's state-owned power utility was in trouble. Total debts amounted to US$350 million, the company had virtually no cash, and supply interruptions were averaging 50 hours a year. The government responded by granting an operational lease contract to Compagnie Ivoirienne d'Electricité (CIE), owned by a joint venture between Saur (a subsidiary of Bouygues) and Electricité de France (EDF) (51 percent); local private interests (24 percent); the government (20 percent) and a joint investment fund for the staff (5 percent). The following table reflects the four-year system turnaround.25

<table>
<thead>
<tr>
<th>Indicator</th>
<th>1990/91</th>
<th>1992/93</th>
<th>1994/95</th>
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<tbody>
<tr>
<td>Number of LV customers ('000)</td>
<td>410</td>
<td>426</td>
<td>480</td>
</tr>
<tr>
<td>Sales (GWh)</td>
<td>1,950</td>
<td>1,867</td>
<td>2,070</td>
</tr>
<tr>
<td>Average voltage interruption time (hours)</td>
<td>31</td>
<td>19</td>
<td>23</td>
</tr>
<tr>
<td>Network/generation net efficiency (%)</td>
<td>87</td>
<td>85</td>
<td>85.3</td>
</tr>
<tr>
<td>LV collection rate (%)</td>
<td>67</td>
<td>85</td>
<td>88</td>
</tr>
<tr>
<td>Net income (millions CFAF)</td>
<td>750</td>
<td>1,658.5</td>
<td>2,057</td>
</tr>
</tbody>
</table>

Reflecting the comfort both the government and the French investors gained through this experience, the government has since awarded the first Independent power project in Sub-Saharan Africa to CIPREL, a project company 75 percent owned by a joint-venture between Bouygues and EDF and 25 percent by other project lenders. The project is for a 100-MW gas-fired power plant based on build-own-operate (BOO) terms, underpinned by a take-or-pay contract with CIE. In essence, CIPREL assumes responsibilities for completion, completion delay, cost overrun, annual contract quantity, maintenance, repair and renovation, while the State has a minimum payment obligation, a fuel supply obligation, and a right to buy back the plant after ten years of operation. The project cost of US$70 million is structured as 25 percent equity, 75 percent debt.

A second phase of the project, which covers installation of additional generation capacity as well as regulatory and institutional reform, would be supported under a proposed IDA credit.26

While demonopolization offers many important benefits, the incumbent and often dominant enterprise remains under government ownership, thus reducing the extent and impact of commercial disciplines. Where a competitive entry strategy is adopted, competitive pressure may help to improve the performance and commercial outlook of the public enterprise, although in many cases it will be difficult to establish a "level playing field" between the public enterprise and private competitors. Where a complementary entry strategy is adopted, the demonstration effects of more efficient private operation may also influence the performance of the public enterprise indirectly, through de facto yardstick competition. Both entry strategies also present opportunities for the government and the general public to develop greater confidence in private provision, and can thus facilitate progress towards later divestiture of the public enterprise.

26 See World Bank (1995g).
Chapter I: The Promise and Challenge of Privatization

Box 1.10: Demonopolization — Cellular Telephony in Ghana

Ghana's telecommunications sector is substantially underdeveloped. Over the past decade, Ghana has averaged only three telephones per 1,000 people, and density has actually been declining in recent years. Over half of the country's administrative districts are entirely without telephone service and are thus effectively cut off from the capital, Accra. In 1994, the national Posts and Telecommunications Corporation reported that as many as 30 percent of all local calls could not be completed. The figures for international service were even more dismal, with only a 15 percent call completion rate. It was estimated that every line in the country experienced one or more faults during the year. Ghana responded to these problems by embracing private participation in the sector and tapping the benefits of competition.

In cellular telephony, six private companies were licensed to establish and operate cellular telephone services in 1990, and the mobile market is open to any other operator who wishes to enter. The first licensee to commence operations in Accra in 1992 was Mobitel, with about 850 initial customers. By 1994, Mobitel provided service to about 2,800 customers in Accra and had plans to extend service to Kumasi, a second major city, only when the needed investment could be financed from its retained earnings. A rival mobile operator, Celltel, then emerged with plans to compete with Mobitel in both Accra and Kumasi, using less expensive technology. This prompted Mobitel to shorten its timetable for providing service to Kumasi and to cut its service price by roughly half. Ghana is now reviewing applications from four consortia interested in providing GSM mobile telecommunications to compete in the cellular market.

Competition between the cellular companies to provide local telephone services has had the effect of expanding the network and lowering prices for mobile telephony. In addition, since the cost of adding cellular users is lower (about US$1,000 per customer connection versus US$3,600 per wireline customer for Ghana Telecom), the government's objective of expanding cellular services to geographical areas containing at least half of the country's population and the regional capitals in the next few years may be realized. The success of Ghana's deregulated cellular market is evidence that governments need not grant monopolies to encourage the development of critical infrastructure.

5. Divestiture

Divestiture — or the sale of the government's shares in a state-owned enterprise — constitutes the strongest form of commitment to private sector provision of infrastructure. In addition to the other benefits of private participation, divestiture may be used as a source of government revenues to pay down debt or other government obligations and may also be used to distribute share ownership broadly across the population. This approach is increasingly common with telecommunications, energy utilities and airlines around the world, and has also been applied to water and railway companies and ports.

Within Africa, there have been few divestitures of infrastructure enterprises to date, and progress under general divestiture programs has generally been slow. There are, however, signs that the pace of divestiture may increase in the future including in key infrastructure sectors (see Box 1.11).

Privatizing Africa’s Infrastructure

Box 1.11: Divestiture in Africa — Faster Progress in Sight?

The pace of divestiture in Africa has so far lagged behind that of other developing regions. Proceeds from sales of public enterprises in Sub-Saharan Africa from 1988-1994 accounted for only about 2 percent of the developing world total for that period, although the last few years have seen an increase in Africa’s share of divestitures.

In 1990, there were nearly 4,700 public enterprises in Sub-Saharan Africa. Between 1990 and 1995, roughly 1,800 public companies were privatized, either through the sale of shares or of assets. The majority of these sales were in the agricultural and service sectors. Many of these transactions involved only partial divestiture, with the government retaining either minority or majority ownership in the companies. In many cases, privatizations have also been carried out as liquidations of small, non-viable enterprises followed by a sale of assets. In many African countries, divestiture through a public share offering is complicated by the inadequacy of domestic capital markets and the often poor financial conditions of the SOE’s which make them unattractive candidates for stock market flotation.

There have, however, been some cases of successful divestiture, notably in Nigeria, where privatization has encouraged the development of local capital markets and popular participation in investment through a wide dispersion of ownership in the privatized entities. In that country, sales of shares through the stock exchange have become the primary method of privatization. This method of mass privatization has created as many as 850,000 new shareholders.

Interest in divestiture in the infrastructure sectors is growing, and the pace of reform seems set to increase. Kenya recently sold a 26 percent stake of Kenya Airways, and countries including Côte d’Ivoire, Ghana, Senegal, Uganda, Zambia, Zimbabwe have announced plans to sell their telecommunications enterprises. South Africa is also considering possible divestiture of a broader range of infrastructure enterprises.

The Ultimate Objective: Securing Private Investment

Expanding private participation in Africa’s infrastructure offers tremendous potential to improve living standards and facilitate private sector activity in other sectors of the economy. While all forms of private participation promise benefits, the most substantial benefits flow from options that involve private investment. This is primarily because attracting private investment requires the strongest commitment to the operation of infrastructure on commercial principles. The critical role of investment is also underscored by the substantial investment needs of the region, by limits in the availability of public funding, and by growing constraints on donor resources. For all these reasons, this paper treats the primary goal as one of attracting private investment in Africa’s infrastructure, and considers other forms of private participation — such as management contracts and leases — primarily in the context of broader strategies for attracting that investment. Although many African countries have some experience with private participation in a range of infrastructure sectors, the majority of such projects have involved management and lease contracts rather than options involving private investment (see Table 1.3).

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29 See Privatisation International (1995)
30 Of 26 Sub-Saharan African countries listed in a recent World Bank report, only two have positive fiscal balances including grants. Overall fiscal balance excluding grants is negative for all countries (see World Bank (1994c)). In addition, the composition of public spending is usually unfavorable to infrastructure.
Chapter I: The Promise and Challenge of Privatization

Table 1.3: Examples of Infrastructure Privatization in Africa

<table>
<thead>
<tr>
<th>Management Contract</th>
<th>Lease</th>
<th>Concession/BOOT</th>
<th>Demonopolize</th>
<th>Divesture</th>
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<td><strong>Water</strong></td>
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<td>Mali</td>
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<td>South Africa</td>
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<td><strong>Electricity</strong></td>
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<td><strong>Railways</strong></td>
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C. MAIN CHALLENGES IN SUB-SAHARAN AFRICA

To attract private capital in Africa’s infrastructure, governments must first openly welcome private investment in sectors long reserved to state-owned monopolies. But much more than that is required. During Africa’s “lost decade” of the 1980s, investment — both foreign and domestic — fell to dramatically low levels, and Africa’s share of foreign direct investment flowing to developing countries also fell from 16 percent in the 1970s to 3.5 percent in the 1990s. 31

Moreover, attracting investment in infrastructure raises some special challenges not evident in other sectors. With investments typically large and immobile, infrastructure prices tend-

31 See also Figure 1.1.
ing to be "political," and revenues usually denominated in local currency, investors demand substantial evidence of a government's commitment to regulatory and other undertakings. Establishing a credible regulatory framework is made more difficult in Africa by weak institutional capacity. While infrastructure privatization raises difficult challenges in every reforming country, Africa raises in acute form four special challenges.

1. **Small Markets, Affordability Concerns and Payment Risks**

Africa's markets are relatively small, with low per-capita incomes, low rates of economic growth and, in many cases, a tradition of non-payment for infrastructure services, raising questions over whether these markets would be attractive to private investors. There are also concerns about the affordability of cost-covering tariffs. These issues are explored in Chapter II.

2. **Legal and Regulatory Framework**

The lack of clear regulatory systems dealing with conditions of market entry, exclusivity of rights conferred on private firms, and issues of price regulation make private investors hesitant to commit significant capital to infrastructure investments. These problems are further compounded by weak regulatory capacity, a shortage of technical expertise and corruption in many African countries. The design and implementation of regulatory frameworks for infrastructure in Africa are discussed in Chapter III.

3. **Non-Commercial Risks**

Infrastructure projects which require large and immobile investments, and for which tariffs are often "political" and denominated in local currency, are particularly exposed to non-commercial risks. This is especially true in Sub-Saharan Africa, where many countries have a legacy of political instability and weak credibility of government commitments. These issues and strategies for mitigating risks are examined in Chapter IV.

4. **Availability of Local Finance**

While the importance of attracting foreign sources of private financing for infrastructure is widely recognized, there are limitations to a reliance on foreign capital alone. There is evidence, however, of considerable unexploited potential for mobilizing local capital for infrastructure development in Sub-Saharan Africa. The current state of local capital markets and options for promoting the mobilization of local resources to facilitate infrastructure privatization are reviewed in Chapter V.
II. Market Size, Affordability and Payment Risks

To attract private investment, the rewards must be commensurate with the risks. One measure of the potential rewards is the size of the market. Low per capita income and low or negative economic growth can make Africa’s infrastructure markets appear small and unattractive to private investors in a world where competition for private investment in infrastructure is intensifying. In many cases, a key problem is insufficient information on how a market would respond to cost-covering tariffs. There are also questions over the affordability of cost-covering infrastructure tariffs in Africa, and of the cost implications of relying on private rather than public finance. And even if affordability is established, a long tradition of illegal connections and non-payment by government customers reduces the potential size of the market and introduces additional risks for potential investors.

A. MARKET SIZE

From a commercial perspective, the size of a market does not depend on its physical mass or its population, but rather on the number and willingness-to-pay of potential customers. In many cases, one of the biggest obstacles facing investors is reliable information on this issue.

Assessing Market Size

For infrastructure projects supplying the wholesale market — such as independent power projects or water treatment works — assessing market size requires an assessment of past and future demand, and of the creditworthiness of the customer. As typically only one or a few large customers are involved, this assessment is relatively easy, and investments can be scaled to demand. For example, a growing number of small and relatively poor countries have been successful in attracting private investment in independent power projects.

For infrastructure projects or enterprises supplying the retail market — such as electricity or water distribution or telecommunications — demand for services provided on a full cost-recovery basis can be harder to assess in countries with a long history of heavily subsidized supply and often poor record-keeping on even basic commercial information by public enterprises. On the one hand, very low penetration rates of basic services such as electricity, water, and telecommunications suggest potential for strong growth. On the other hand, low economic growth and low per capita incomes raise real questions over the size of the potential customer base for many infrastructure services.

Evidence on the potential size of telecommunications markets is generally encouraging for private investors. Telecommunications tariffs have not been subsidized to the same extent as other infrastructure services, and revenues per main line of US$1,225 are well above the world average of US$735 — substantially higher than in, for example, Central and Eastern
Privatizing Africa’s Infrastructure

Europe.¹ Recent experience of cellular telephone operators in Africa reveals that there is a significant part of the population willing and able to pay high prices for access to reliable telephone services. For example, in one East African country an investor offered portable handsets ranging in price from about US$600 to US$900; the company was surprised to discover that the overwhelming majority of customers were local residents, rather than expatriates, and that 80 percent of customers chose the most expensive model. In Nigeria, the cellular phone market is forecast to grow at 25 percent a year.²

For other services, direct evidence of potential market size is harder to find. Inferences may be drawn from the experience of countries such as Côte d’Ivoire that have moved to full cost-covering tariffs while expanding service coverage and increasing collection rates. Inferences may also be drawn from the prices paid for self-provision and for services procured from the informal sector. In power, for example, many enterprises and more affluent households have installed their own diesel generators, the cost of which is usually much more than cost-covering prices charged by an efficient utility. Similarly, prices charged by private water vendors often far exceed those of an efficient utility fully covering its costs (see Box 2.4).

As discussed below, establishing sustainable systems of public subsidies for essential basic services can help to augment total market size, thus meeting both social and commercial goals.

Expanding Markets Through Regional Cooperation & Integration

Where national markets are small, the development of cross-border projects may also assist in increasing the project size and potential appeal to private investors. There is considerable untapped potential for regional cooperation in power, for example, which could bring substantial economic benefits (see Box 2.1).

¹ World Bank (1994a).
² Ankomah (1994).
Chapter II: Market Size, Affordability and Payment Risks

Box 2.1: The Power of Cross-Border Cooperation

One of the main constraints on private investment in power infrastructure in Sub-Saharan Africa is the small size of Africa’s power markets. Without a customer base large enough to support returns commensurate with the perceived political risks, power developers by and large have stayed away from the continent.

Through cross-border interconnection, the environment for IPPs could be made significantly more attractive by increasing the effective market served by IPPs and thus their commercial viability. South Africa’s state-owned power utility, Eskom, is paving the way for a more unified African power market, with hopes of interconnecting the whole of the African continent from South Africa to Egypt. Countries already interconnected are South Africa, Lesotho, Swaziland, Namibia, Mozambique, Botswana, Zambia, Zaïre, and Congo. Countries committed to joining are Angola, Kenya, Malawi, Tanzania and Uganda. The financial arrangements for the new transmission projects pending are still to be determined, and many of the existing connections, designed for incompatible voltage levels, will require additional investment to allow operation at a new standard voltage.

With the interconnection grid should come new opportunities to exploit untapped hydro potential on the large rivers in the region: if Zaïre’s political uncertainties can be overcome it has been estimated that some 50,000 to 120,000 MW of hydro-generation potential exists on the Zaïre River at Inga — enough to supply the total demand of the whole African continent and export to Europe and Asia. Mothballed plants, in South Africa, especially, could be brought on-line to soften the effects of droughts, which have recently devastated the power supplies of the northern part of the region.

While interconnection might solve some problems for private power producers, it will also bring new challenges. The fact that two or more countries would be involved in their commercial viability for a single power plant would increase the amount of time and resources needed to close a transaction. Problems with coherence and consistency between legal and regulatory frameworks will become an issue. Inter-governmental agreements will be needed on fiscal matters. And the risks of changes in law, political violence, or other unforeseeable events will be multiplied. On the other hand, as the behavior of one government would have a direct impact on other countries, some public authorities might be expected to exert pressure on others to convince them to honor agreements that they have concluded with private operators.

The normalization of South Africa’s relations with its neighbors is also providing a strong impetus for regional integration. Thus, Pretoria and Maputo recently launched plans to create a development corridor (roads and railways) between South Africa’s Gauteng and Mpumalanga provinces and the port of Maputo (see Box 2.2).

However, more extensive regional cooperation and integration within Sub-Saharan Africa has so far remained elusive. Institutions established to promote regional integration are often provided inadequate resources, unclear mandates, and overlapping responsibilities. More fundamentally, inconsistent laws and protectionist policies remain a problem despite growing evidence of the benefits of open economies. A recent World Bank report finds a correlation between the pace of developing countries’ integration in the global economy and rate of growth. The 25 percent of countries that integrated most rapidly over the past decade experienced nearly 3 percent faster growth than the bottom quarter. Given this growing disparity between closed and open economies, it is essential for countries in Sub-Saharan Africa to adopt policies that enhance their ability to invest and compete in an open environment.

4 See World Bank (1995f).
5 In the telecommunications sector, for example, numerous organizations have been established to support regional cooperation (e.g., the Pan-African Telecommunications Union (PATU), the Regional African Satellite Communications (RASCOM), and the Pan-African Telecommunications Network (Panaftel)). Some observers attribute the disappointing progress to date to rivalry and tensions between the various bodies. See Shetty (1994).
6 World Bank (1996b).
The Maputo Development Corridor

In May, 1996, the presidents of South Africa and Mozambique launched the "Maputo Development Corridor" which will revive transport links between the two countries. This cross-border initiative entails three major infrastructure projects: dredging and rehabilitation of Maputo port; a new private toll road between Maputo and Witbank; and a new rail route to Johannesburg. Much of this development is being financed and built by the private sector. Several consortia are preparing bids for a 30 year concession to build and operate the toll road, a US$139 million project which will be 90 percent financed by the private concessionaire. A private company will operate the new rail service, and Maputo port's container terminals will continue to be contracted out to private enterprises.

The improved transport infrastructure should facilitate the development of regional trade and industry. Already, the South African mining company, Gencon, has proposed plans to build a $1 billion aluminum smelter in Maputo. The development of the corridor also has a powerful political significance for the mending of relations between South Africa and Mozambique, and it may point the way ahead for the planned commercialization and privatization of much of South Africa's transportation infrastructure.

The Impact of Donor Finance

Concessional finance from donor agencies can also affect investors' perceptions of market size. Where governments look primarily to donor-financing for infrastructure investment, incentives for privatization and for private investors are more limited. Some private investors have voiced concern that, at least in some cases, projects being supported by donor agencies are crowding out potential private projects. However, donor financing may also be used in ways to expand rather than reduce opportunities for private investment. These issues are considered below.

Finally, it is important to emphasize that market size must be viewed relative to risks, and relative to rewards and risks in other markets competing for private capital. Measures to mitigate risk thus help to make even small markets more attractive to private investors.

B. "AFFORDABILITY" CONCERNS

The question of "affordability" of infrastructure prices can be viewed from two perspectives. From the potential private investor's perspective, it affects market size and hence commercial opportunities. From a broader social policy perspective, affordability has implications for access to services by the poor. There are two main issues: the affordability of cost-covering tariffs and concern over the potentially higher cost of privately financed infrastructure projects.

"Affordability" of Cost-Covering Tariffs

In the absence of well-designed measures for public subsidies, private investment in infrastructure requires that tariffs reflect the full costs of provision. While cost-covering tariffs are the preferred policy goal for utilities even under public ownership, in the case of Sub-Saharan Africa and other low income countries concern is sometimes expressed about the appropriateness of this approach. There are several answers to this concern.

First, there is no free lunch. If costs are not recovered through tariffs they must be funded through the tax system, or declining services will lead to the even higher costs of self-
Chapter II: Market Size, Affordability and Payment Risks

provision. History has shown that public subventions cannot be relied upon in times of constrained budgets, leaving insufficient funds for new investment and maintenance. This is especially true in economies subject to frequent macroeconomic shocks. Moreover, cost-covering tariffs send proper signals for efficient investment and use, including incentives to conserve scarce resources.

Second, there is unequivocal evidence that traditional approaches of subsidizing infrastructure prices through state-owned enterprises benefit disproportionately the most affluent members of society (see Box 2.3). They offer little or no relief to the poor who — in an environment of insufficient funds for investment — receive no access to infrastructure service at all.

Third, many consumers of infrastructure services in Sub-Saharan Africa already pay prices much higher than would be charged by an efficient supplier with full cost-covering tariffs. As discussed in Chapter I, businesses and more affluent users do so through the high costs of self-provision of electricity and water. And even the poorest members of society often pay extraordinarily high prices for water provided by private vendors (see Box 2.4).

Fourth, when considering whether prices would increase under private provision, the bloated cost structures and inefficiency under public ownership should not be overlooked. For example, the high costs currently associated with over-staffing, large system losses and poor collection practices often provide a substantial margin for an efficient private operator to introduce cost-covering tariffs by reducing costs rather than increasing tariffs. While it is difficult to generalize in this area, examples exist of private firms offering to improve service for a tariff lower than that previously charged by the state-owned enterprise, based in part on the firms' confidence in their ability to substantially reduce losses and improve efficiency.

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11 For example, in Argentina the successful bid for a private water concession for Buenos Aires was 27 percent lower than the price charged by the public operator.
Fifth, for many infrastructure services, the greatest hurdle to expanding consumer access is the cost of connection to the distribution system. In electricity, for example, household connection to the grid is expensive (e.g., US$600 in Burundi, US$240 in Côte d'Ivoire), and in a wide range of income it is the recovery of that cost, not the price per kWh, which is the greatest barrier to electricity access. More consumers could afford power, and more utilities could recover their cost, if connection costs were spread over the life of the distribution system. In this regard a worthwhile lesson can be learned from the water sector in Côte d'Ivoire where, in the 1990s, the cost of connection for those with limited consumption was included in the general water tariff, and "free" connections made. The result was dramatic: in the space of two to three years, about 30 percent more customers had been connected.\(^{13}\)

Finally, in cases where there are genuine concerns over the cost of access to basic services, there are a number of ways of delivering subsidies in a way that is consistent not only with private involvement but also with greater efficiency. There are two main strategies. First, private investors can be permitted to recover their full costs from tariffs, but through tariff structures that provide lower prices to the least affluent members of society. Examples include "lifeline" tariff rates — where the initial minimal consumption level is at a subsidized rate — or higher marginal tariff rates incorporating the cost of connection, as in Côte d'Ivoire. Second, the difference between tariff revenues and full costs might be provided through a public subvention. Concessions may be awarded on the basis of the lowest subsidy required (e.g., Argentine railways) or direct transfers may be made to consumers or the operating company (e.g., Chile; see Box 2.5).

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Box 2.4: Cost-Covering Water Tariffs in Africa

A growing number of African countries are moving towards policies of full cost-covering tariffs for water supply, with examples including Guinea and Côte d'Ivoire. While the economic arguments for such policies are compelling, there is often concern over the affordability of this policy in poor countries. Experience in the Nigerian city of Onitsha is illuminating.

In Onitsha, the vast majority of residents obtain their water from an elaborate privately-operated water vending system. A survey of users of this system in 1987 revealed some surprising results. Not only did households report that they were prepared to pay substantial amounts for water from a piped distribution system, but the data made clear that they were already paying a lot for water. During the dry season, the private sector vendors were supplying twice as much water as the public system, but were collecting 24 times as much revenue. In the rainy season, the sales of private vendors were still ten times the amount collected by the water utility. On an annual basis, households in Onitsha were paying water vendors over twice the operation and maintenance costs of a piped distribution system.\(^{12}\)

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13 In Zambia, for example, the number of households connected to the electricity grid remains low, in spite of a price per kWh which is among the lowest in Africa at about 2 cents, because service is provided only to those who can pay the full connection costs up front.
Box 2.5: Chilean Subsidy Scheme in the Water Sector

Chile recently replaced its cross-subsidy system with a comprehensive subsidy scheme for low-income households, assisting with the purchase of a variety of public services. Subsidies amount to a total of US$12-13 million, excluding the administrative cost of the scheme. The program is financed by the central government but administered through the municipalities. Subsidies are paid to the public-service operator rather than the household.

In the case of water, the subsidy covers 40-85 percent of the charges for the first 20 cubic meters of consumption. The goal of the scheme is to ensure that water and sanitation services do not take up more than 5 percent of household income. There are multiple criteria for eligibility including: region, average cost of water, household income and wealth, and family size. Eligibility must be reassessed every three years. Households failing to pay their share of the bill have their subsidy suspended.

Initially, the onus of proving entitlement to the subsidies was laid on households. However, low take-up rates prompted water companies to collaborate in identifying needy customers by examining tariff payment records. It is now believed that all eligible households in urban areas (about 20 percent of the population) are covered by the scheme.

Higher Costs of Private Finance?

Even when there is agreement on a general policy of cost-covering tariffs, there may be concern that the level of costs may be higher for privately financed infrastructure. Those seeking to resist infrastructure privatization often stress the fact that private finance is more expensive than public finance, and question whether the gains from private participation exceed the costs imposed through higher financing charges.

Posed in these terms, the question is misleading. First, all private entities — whether in infrastructure or elsewhere — have to borrow at rates higher than the sovereign borrowing rate. However, privatization of manufacturing firms is generally not criticized on the grounds of higher borrowing costs in private markets. Pushing the argument to the extreme one would have to suggest that all firms in the economy be state-owned to benefit from lower borrowing charges — a position not often advocated today.

Second, although quoted sovereign borrowing rates are, indeed, lower than quoted private rates, the reason does not lie in the nature of the project. If anything, the performance of private projects may be expected to be at least as good and probably better than public projects. The reason is rather that lenders look to the repayment capability of the borrower. In the case of the sovereign, there is always recourse to taxation — by printing money if need be. In the case of private companies — whether project-specific or not — it is the expected returns of the business that matters.

In general, the difference between quoted public and private borrowing rates provides a measure of the contingent liabilities that all taxpayers bear in the case of public sector projects. In private projects with cost-covering prices, these risks are borne by the users instead. To the extent that taxes introduce distortions that market pricing does not, public borrowing entails an extra invisible cost. *A priori*, therefore, there is no reason to believe that the social costs of private finance are higher than the social costs of public finance.\(^\text{15}\)

A separate but related concern over the cost implications of infrastructure privatization can be the transaction costs involved in introducing private participation, including articulating a regulatory framework, conducting competitive bidding, putting together sometimes complex

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\(^ {15}\) Kay (1993).

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security packages to assuage concerns of the private investor etc. Certainly, these costs are not trivial: in some cases in the U.S., feasibility studies and bid preparation have each been estimated to entail expenses of between 5 and 10 percent of total project costs.\textsuperscript{16} Transaction costs also exist within the public sector, however. Besides, some of the transaction costs usually associated with private participation are not due to the introduction of private participation per se, but to the fact that the entry of private operators often coincides with the setting up of improved monitoring systems which would have been justified earlier as well. Moreover, these costs can be minimized by a thorough analysis of options and issues up front, before engaging prospective private investors. Treatment of some issues also exhibits scale economies: for example, a regulatory framework, once established, may support a number of projects either within the one sector or even — in cases such as cross-sectoral concession laws or cross-sectoral regulatory agencies\textsuperscript{17} — across infrastructure sectors at large. Finally, the high costs of initial projects reflect learning economies on the part of the government, the investor community, financiers, and the general public. If the lessons of experience can effectively be incorporated into the process, subsequent projects will typically involve substantially lower transaction costs.

\section*{C. PAYMENT RISKS}

Establishing a pool of customers who can afford cost-covering tariffs is not enough if there are concerns that they will not honor their payment obligations. In many African countries, one legacy of state provision has been a perception that infrastructure services are “free,” with both public and private sector customers refusing to pay for services. A related problem is widespread fraud in obtaining access to public services. Assessments of payment risks of this kind can seriously affect perceptions of the size of a market. In analyzing these issues it is useful to distinguish between projects at the wholesale and retail levels.

\textit{Projects at Wholesale Level}

If the infrastructure project is at the wholesale level — such as sale of bulk power or water treatment services to a utility — the supplier depends critically on the creditworthiness and reliability of one or a few major customers. The private investor may be especially concerned when a major customer is a state-owned entity without a long record of operating at arm’s length from the government. Questions of the enforceability of contracts are discussed in Chapter III, while questions of parastatal breach of contract — usually considered to be a non-commercial risk — are discussed in Chapter IV.

\textit{Projects at Retail Level}

Where the project serves a retail market with multiple customers — such as water or electricity distribution, transport, or telecommunication services — payment risk can be diversified. The usual mechanism for enforcing payment is the threat of disconnection. How-

\textsuperscript{16} Expenses incurred for preparing feasibility studies amounted to 8 percent of total project costs for the Edgewater Sewerage Plant (a US$16 million project), while the budget for bid preparation of the US$500 million Conway Bypass project amounted to 6 percent of total project costs.

\textsuperscript{17} See Chapter III.
ever, some difficulties may remain, with some differences between private and public customers.

(a) Private Customers

Billing and collection practices of many state-owned utilities have been very poor. In many cases, this has been seen as an opportunity for private operators. Indeed, the introduction of private participation arrangements, coupled with a clear right to disconnect non-payers, has proven effective in increasing collection rates significantly. For example, in Guinea's water system the collection rate for private customers improved from less than 20 percent in 1989 to around 85 percent in 1995, and in Côte d'Ivoire's power sector collection rates increased from 63 percent in 1988 to around 95 percent in 1992/93.

Private operators have adopted a number of measures to support the leverage available from disconnection for non-payment. In some cases, public campaigns educate the public about the value of services such as water. Although programs of this kind are sometimes supported by donor agencies, in Côte d'Ivoire the private operator in the water sector judged that such actions were sufficiently cost-effective to pay for it out of internal resources. In other cases, operators use pre-payment plans to simplify billing and collection. In Uganda, for example, pre-paid telephone cards have facilitated the introduction of telephone services in poor, outlying areas. Small entrepreneurs have started to buy telephone cards and to resell individual telephone call units to the local population.

The remaining problem with private customers is theft or illegal connections. In the case of the management contract in the electricity sector in Guinea-Bissau, theft has been so bad that it, together with non-payment by government customers, threatens to undermine the financial viability of the enterprise.\(^\text{18}\) Illegal connections also constitute a severe problem in the water sector. In Guinea, for example, it has sometimes been necessary to use the army to cut-off illegal connections. In telecommunications, illegal connections are less of a problem since the cost of a fraudulent communication appears on the bill of a legitimate user. However, abuses by privileged public servants whose telecommunication bills (including for international communications) are picked up by the State, can be extremely costly. In addition, frauds committed with the complicity of utility employees can be a problem in any sector.\(^\text{19}\)

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\(^\text{18}\) See Box 1.5.

\(^\text{19}\) In fact, until recently, frauds of this type have been so prevalent in the telecommunications sectors of some West African countries that the number of communications emanating from those countries toward Europe or America soared, leading the SOE to incur substantial debt vis-à-vis its European and American counterparts. Such a situation is particularly hurtful for the African operator which, because of the heavy international flow emanating from domestic customers, loses the part of its revenues denominated in foreign currency.
International experience illustrates a number of approaches to this problem. In some cases it may be possible to transfer part of the collection risk to the government. This option only makes economic sense, however, if the government is better able than the private operator to control that risk or to absorb it. If that is not the case, the risk should be borne by the private operator who will take it into account when determining the price which he requires to perform the service. If imposing such a price to consumers is judged politically unacceptable, the government can then provide a subsidy, either to the consumers themselves or to the operator, in a way which would not decrease the operator’s incentives to improve collection.

Another series of approaches involves promoting self-policing among the user community, with possibilities varying from sector to sector. A first option, applicable in most sectors, is to impose an explicit levy on all customers to cover the cost of losses through theft. This covers the investors’ revenue needs while helping to build public sentiment against those who steal electricity or other services and creating a constituency for stronger public action to combat illegal connections. Another solution, recently adopted in the electricity distribution sector in Argentina, involves disconnecting neighborhoods where consumption levels indicate large scale thefts (see Box 2.6). Privatizing water fountains involves a similar idea, since the fountain operator must pay the utility and is left to collect revenues from individual users.

In the telecom sector, digitalization increases the number of options at the disposal of the operator. For example, individual lines can be automatically cut off when the bill reaches a predetermined maximum.

Hard-to-tamper-with meters can also help make some frauds more difficult. Hard-to-tamper-with electricity meters cost about twice as much as normal meters, a price difference which operators in Sub-Saharan Africa generally seem to consider justified by the potential gains to be made. In the water sector, however, the price difference is much larger. Be-

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Box 2.6: Community Self-Policing: Argentina’s Electricity Distribution

Following the 1992 privatization of Argentina’s electricity sector, two of the largest distribution companies serving the Buenos Aires metropolitan region, Edenor and Edesur, were plagued by high losses due to illegal connections. Much of the theft occurred in shanty towns and low-income areas where cutting off power was viewed as unacceptable by local authorities. The solution was to install medium tension distribution lines in areas most prone to theft problems and to connect only about ten consumers through a transformer and low voltage lines. The high voltage in the medium tension lines makes illegal connections practically impossible and any attachment to the low voltage line is easily identified, since the transformer cannot process more than ten users. Thus, illegal connections result in automatic interruptions of service on specific lines and places the burden on communities to address the problem of electricity theft.

In addition, collections have improved through a system whereby the municipalities pay the bills to the electricity concessionaires and are responsible for collecting from users. The outcome has been dramatic increases in payment levels in low-income areas, reaching as high as 90 percent for Edesur.

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20 World Bank (1996a).
21 The scheme might be more complex to implement in the electricity sector since the distributor might have to assume certain responsibilities beyond the point at which payments are made (in our example, the centrally located shop). Such responsibilities might include installing the required infrastructure between shop and dwellings and/or checking the safety of such infrastructure, installing individual meters in each dwelling, etc. Such responsibilities would then have to be very precisely defined to ensure that the distributor does not get drawn into conflicts between the shop owner and the dwellers.
sides, hard-to-tamper-with water meters are currently electrical devices, not suitable therefore to unelectrified rural areas.

(b) Government Customers

In many African countries, the government is itself a major customer for water, electricity and other infrastructure services. In most cases, it also has a reputation for non-payment of bills and will not accept disconnections disrupting its "critical" functions. This has been a major obstacle for utility reforms throughout the continent and has posed problems in countries that have already moved towards privatization. In Côte d'Ivoire's power sector, for example, the government, representing 10 percent of sales by value, had an unpaid balance in December 1994 of CFAF 32 billion (US$59 million), or 2.7 years of consumption. In Guinea-Bissau, government demanded service for "critical" functions even when its unpaid bills were causing financial distress for the utility. In Guinea, the government accounts for around 42 percent of the private water operator's revenues and, by July 1995, had failed to pay its bills for the last eighteen months.

When the threat of disconnection is ineffective, the challenge is to devise an alternative mechanism for securing payment. In some cases, private operators have responded by withholding payments due to other arms of government. If the withheld payment was due to the Finance Ministry, such as taxes, this may create incentives for the Finance Ministry to place pressure on the defaulting ministries or state-owned enterprises. If, however, the withheld payment is due to a state entity responsible for financing sector investments, this strategy may have limited impact on the defaulting ministries or enterprises and may lead to difficulties in financing needed sector investments.

In the long term, the objective is to develop a culture in which government customers, like others, accept the need to pay their bills in a timely manner or face disconnection or some other penalty as a result. Until this is achieved, however, possible interim measures might include:

- Developing an explicit but progressively narrow definition of "essential services," and pursuing a vigorous policy for disconnections for other services and enforcing penalties for non-payment.
- Reducing consumption. In the Central African Republic, such simple actions as fixing restrooms and installing time-controlled faucets reduced water consumption by as much as 20 to 25 percent in certain ministries.
- Installing hard-to-tamper-with meters coupled with pre-payment direct to the operator or to an escrow account, an approach adopted in Tanzania’s electricity sector (see Box 2.7).

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22 World Bank (1995e); see also World Bank (1995g).
24 The latter strategy is being adopted in Côte d'Ivoire's power sector and Guinea's water sector; in Guinea, concerns have been raised over the implications for the longer-term sustainability of investment financing in the sector.
Privatizing Africa’s Infrastructure

- Insisting on separate accounts for government departments, municipalities and parastatals, thus making it easier to identify and cut off non-payers individually, as in Côte d’Ivoire, where the telecoms bureau had its electricity cut off for not paying its bill.
- Involving central budget authorities in the process, either by holding them responsible for non-payment or devising schemes whereby ministries receive funding earmarked for utility bills, and which cannot be disbursed for any other purpose.
- Imposing an explicit levy on paying customers to cover the costs of government non-payment, thereby ensuring the operator’s revenue needs are met as well as creating a constituency for reforming government payment practices.

**Box 2.7: Introduction of Pre-Payment in Tanzania’s Electricity System**

As part of its Tanzania Power VI Project, the World Bank has provided US$11 million for technical assistance to the Tanzania Electricity Supply Company (TANESCO), the state-owned electric utility, to aid billing and revenue collection. The utility’s billing and customer databases suffered from chronic technical and administrative problems resulting in low levels of revenue collection from both residential and public users. To address this problem, TANESCO recently undertook to improve its billing system by computerizing and decentralizing its customer database and by introducing pre-paid electricity dispensers.

The electricity dispenser, an electric meter fitted with a circuit breaker and computer chip, allows customers to control consumption and expenditure through pre-payment. Magnetic cards purchased from vending stations are read by the dispensers, allowing consumption up to the card’s pre-paid value. About 8,000 of a projected 40,000 of these dispensers have been installed, including in most government buildings. The result has been a marked increase in cash collection by the utility as well as a simplification of the billing process and reduction of time spent on unpaid or inaccurate bills.
III. Legal and Regulatory Framework

Before committing significant capital to infrastructure investments, private firms require clear "rules of the game" covering such matters as the scope and conditions of market entry, the exclusivity of any rights conferred, and, of particular significance in many infrastructure activities, the extent and form of any ongoing price and/or quality regulation. In most countries in Sub-Saharan Africa, the relevant legal and regulatory frameworks remain at a very early stage of development. Moreover, many governments have weak regulatory capacity, reflecting a limited tradition of adhering to the rule of law, a scarcity of skilled resources and, in many cases, widespread corruption. This chapter reviews some of the main issues and options associated with the design and implementation of regulatory frameworks for infrastructure in Africa.

A. RULES GOVERNING ENTRY CONDITIONS

During the 1960s and 1970s most African countries restricted foreign investment in various ways, often limiting investment to certain sectors and even then limiting participation to a specified (usually minority) share of equity. In recent years there has been a trend towards liberalization of the general investment regime throughout most of Africa. Despite this, several key uncertainties for private investors remain.

First, in many cases it is not completely clear how these more liberal policies are to be reconciled with earlier laws granting state-owned enterprises a monopoly over infrastructure provision. Many restrictions on private entry remain. And even when private entry is permitted, the nature and scope of the rights available to private entrants may be unclear. Uncertainties in these areas pose major risks for investors, as their investment may be vulnerable to changing interpretations of general policy.

Second, even assuming that the right of entry and potential scope of operations of the private investor are clear, there is often a lack of clearly established rules governing the process for awarding concessions or licenses for private projects. It may be unclear what approvals are required, who has authority to grant those approvals, and what criteria will be applied. Uncertainties of this kind can increase development costs considerably. Where several firms are potentially interested in one project, there may also be concern that the process will unfairly advantage one firm over another. Where a contract is awarded through a non-transparent, non-competitive process, there may be concerns over corruption as well as the risk that a later government might use any doubts in this area as an excuse to renege on the deal — a phenomenon recently observed in India, for example. In this environment, potential investors may be reluctant to invest any effort into seeking out investment possibilities.

The preferred way to deal with these issues is for governments to specify carefully the scope for private operation and the processes that will be adopted to approve projects. This may involve amendment of earlier legislation that mandated monopoly provision by state-owned

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**Box 3.1: Competitive Bidding — An Emerging Consensus**

Governments that are proposing to award concessions or restricted licenses to private firms may adopt a number of processes for identifying their chosen partner, ranging from private negotiations with a single investor to more open and competitive bidding arrangements. Competitive bidding arrangements have a number of advantages, including:

- Ensuring the country gets the best deal possible;
- Reducing concerns over corruption or patronage in the award process; and
- Reflecting the above, reducing the risk of the contract later being challenged or canceled.

Despite these evident advantages, some private developers argue that competitive bidding may not always be appropriate for infrastructure projects, particularly where substantial development costs are involved in preparing a bid. There are three main cases commonly raised by investors.

First, some argue that organizing a competitive bidding procedure takes time and that when projects are needed urgently, direct negotiations will be faster. While it is true that competitive bidding processes are relatively complex, the contention that negotiated procedures will always be faster is debatable. Examples abound of negotiations which drag on for very long periods. Besides, hastily negotiated deals may give insufficient attention to key issues, which may emerge to haunt one or both of the parties later on.

Second, there may be concern that investors will not take on the often high development costs associated with preparing competitive bids for projects in smaller or more risky markets without assurance of recovering their expenses through award of the contract. This concern is often said to be particularly true in the case of water supply concessions, where the underground nature of the assets makes due diligence difficult and costly. One response to this concern, as in the case of Buenos Aires, is to undertake a thorough evaluation of the market and underlying assets by an independent consultant before bidding is opened, making this information available to all firms who participate in the bidding process. Limiting the number of prequalified bidders to three or four also increases each candidate’s chance of winning and thus its willingness to incur preparatory costs. Finally, an announced policy of reimbursing all or part of the development costs incurred in the preparation of the best non-prequalified bid(s) could help attract bidders.

Third, there may be concern that private sponsors will not take the initiative to develop unsolicited proposals for private infrastructure projects if there is a risk that their labors and intellectual property will not be rewarded through award of the contract. There may be a number of responses to this concern. In the Philippines, for example, a strong framework in support of competitive bidding still allows unsolicited proposals to be accepted through direct negotiation in some circumstances, including a requirement that comparative bids be solicited and, if a comparative bid is received at a lower price, the original proponent has the option of matching the price of the comparative bid and receiving the contract. It may also be possible to provide direct incentives for firms to offer unsolicited project ideas that are later adopted, without necessarily forgoing the benefits of a competitive process; after all, the firm most capable of generating innovative ideas will not always be the firm best able to implement those ideas at least cost.

Internationally, a consensus is emerging in favor of competitive bidding. The exceptions should normally be limited (e.g., very small contracts and emergency situations). If it is decided to proceed with negotiated procedures, safeguards can be used to limit the risks inherent in this strategy. Among the most important are the adoption of transparent procedures and the use of external benchmarks, which provide some assurance that the conditions being offered are reasonably advantageous.

enterprises and clarification of the roles of relevant approving authorities. Ideally, such legal reforms would reduce or eliminate barriers to entry in as many infrastructure activities as possible and, where exclusive or restricted franchises were involved, mandate competitive bidding processes according to well-defined and transparent procedures (see Box 3.1).

Many of the issues associated with entry conditions for private infrastructure arrangements are substantially identical across sectors, and a growing number of countries are adopting cross-sectoral concession laws or similar legal instruments as a key element of their infrastructure reforms (see Box 3.2). Such an approach may have particular advantages in African countries that have under-developed legal and regulatory systems in this area.
Chapter III: Legal and Regulatory Framework

B. RULES GOVERNING MARKET STRUCTURE: COMPETITION vs. MONOPOLY

Many infrastructure activities in Africa have long been reserved to state-owned monopolies, with a single state enterprise often undertaking all stages of production (e.g., power generation, transmission and distribution) throughout the entire country and enjoying statutory protection from competition. Monopolistic arrangements of this kind were thought to be justified by the "natural" monopoly characteristics of various infrastructure activities, although the monopoly rents available under these arrangements were also an attractive resource for politicians looking to finance cross-subsidies to preferred regions or categories of users or to meet other goals.

Box 3.2: Entry Conditions — Use of Cross-Sectoral Concession Laws

A growing number of countries are addressing issues associated with the basic entry conditions for private investment in infrastructure through cross-sectoral concession laws or similar instruments, with recent examples including Hungary, Bulgaria, Chile, Colombia, the Philippines and Brazil. Although details vary from country to country, these laws typically provide clear rules on:

- Which sectors are open to private sector participation, and any restrictions on that participation;
- The award of concessions or other contracts, including which governmental entity(ies) has authority to award contracts and detailed rules on the requirements for open competitive bidding, etc.; and
- The basic characteristics and terms of concession contracts, including general rules on the treatment of tariff adjustment, international arbitration and cancellation or modification of concessions.

Clear rules on these basic issues enhance certainty for investors and officials, reduce opportunities for corruption and instill confidence in consumers. In addition, the commonality of rules across sectors on these generic issues can have several advantages. These include:

- Economies of scale in developing the basic regulatory framework, with reduced opportunities for the rule-making process to be captured by interest groups in particular sectors;
- Consistent interpretations: precedents in the interpretation of rules in one sector can illuminate the likely interpretation in other sectors subject to the same rules, thus enhancing certainty for investors and officials, and — by curbing discretion — reducing opportunities for corruption; and
- The potential to use such a law to signal the government's interest in and commitment to private participation in infrastructure.

Of course, a single cross-sectoral concession law cannot address all the regulatory issues in every sector, and will usually require complementary sector-specific legislation and/or more detailed norms contained in individual concession contracts. Nevertheless, such laws can be a positive and versatile step to enhance the legal and regulatory environment for private infrastructure projects. In Hungary, for example, a cross-sectoral concession law has proven flexible enough to provide the basic framework for the first private toll-road and telecom privatization in Eastern Europe as well as several private water projects.

In recent years, advances in technology and in economic thinking have shown that the scope for genuine "natural" monopoly in most infrastructure activities is relatively small, and that economic welfare can often be increased substantially through pro-competitive reform and deregulation in sectors including transport, telecommunications and power and gas generation. Many developing countries are in the lead in pro-competitive economic reform in these areas. Efforts to privatize Africa's infrastructure will raise a now familiar set of questions for reformers: Is it appropriate to give private investors exclusive rights over particular

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2 The conditions of "natural" monopoly are said to exist where economies of scale and scope in the relevant activity mean that a single firm can supply the entire market at least cost.
activities? And should state-owned enterprises be restructured to facilitate competition before privatization?

**General Prescriptions**

(a) **Potentially Competitive Activities**

Many infrastructure activities are capable of provision in competitive markets. Clear examples include long-distance, cellular and value-added telephony; trucking; in-port services; and power and gas production. In addition, many infrastructure activities face effective competition from substitutes; for example, rail freight is subject to competition from trucking, and power is subject to competition from oil or other energy sources. In these activities, removing regulatory restrictions on competition will promote allocative, technical and dynamic efficiency, and reduce or eliminate the need for economic regulation. Examples of successful pro-competitive reforms in infrastructure are multiplying rapidly around the world. In Africa, Ghana’s experience in cellular telephony provides an illustration of the potential benefits.3

In some cases, fostering effective competition without creating large regulatory demands will require the potentially competitive activity (e.g., power generation; gas production) to be separated from naturally monopolistic activities (e.g., power transmission and distribution; gas transmission and distribution). This is because a vertically-integrated firm can use control over the natural monopoly component to stifle competition in the potentially competitive market. The extent to which such so-called “vertical unbundling” is appropriate requires an assessment of the costs and benefits of separation. The case for strict separation will be particularly strong when the capacity to maintain effective competition through regulatory intervention is weak.

Such reforms may also require efforts to prevent undue market concentration — such as by restructuring state enterprises into two or more firms before divestiture — and to restrict later mergers that would undermine effective competition. Where monopolistic structures have been used to finance cross-subsidies — such as between urban and rural users of electricity or between long-distance and local telephone users — a short transition period may be needed to allow tariff re-balancing. There may also be a need for new mechanisms to finance ongoing subsidies in the sector, with options including budget funding and levies on all firms in the competitive market.

(b) **Naturally Monopolistic Activities**

Some segments of infrastructure activities are likely to continue to exhibit “natural” monopoly characteristics, with examples including water supply systems, power and gas transmission systems, electricity and gas distribution networks, and — to a rapidly diminishing degree — local fixed-wire telecommunication networks. Even though direct head-to-head competition between rival firms may not make economic sense in these activities, this does not imply that a single national provider will always be appropriate. In some cases, it may be more advantageous to have a number of different firms operating in different re-

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3 See Box 1.10.
Chapter III: Legal and Regulatory Framework

Horizontal unbundling of this kind permits a degree of “indirect” or “yardstick” competition between firms, which can help to ease the burden on economic regulation. It might also make the threat of bankruptcy more real for underperformers, since other operators already present in the country could swiftly take over the activities of the bankrupt company, thereby avoiding service interruptions. The extent to which a given market can be divided between rival public service providers will depend on the size of the relevant market: the economies of scale available from horizontal integration need to be weighed against the potential benefits to be derived from yardstick competition and easier exit mechanisms.

Special Considerations in Africa?

While the above principles are usually considered to be of wide application, the question arises as to whether there are any special circumstances affecting their application in Africa.

There are some who might argue that certain features of African environments favor less rather than more competition. The relatively small size of many African infrastructure markets is one factor, with the concern that economy of scale considerations may limit the scope for introducing effective competition. In addition, private investors will often demand monopoly rights even in relation to potentially competitive activities, and/or resist more substantial sector unbundling before privatization. While most investors prefer the comfort of a monopoly over competition in any setting, in some African countries it is argued that allowing monopoly rents is justified to attract international investors, or to help off-set the non-commercial risks they face in untested markets. Some governments may have sympathy for these arguments, particularly if conferring a monopoly increases the potential revenues from divestiture, allows politically popular cross-subsidies to be perpetuated, or creates rents for officials in various ways.

The clear lesson from international experience, however, is to seek more rather than less competition wherever feasible, and this applies with more, not less, force in markets with under-developed markets and weak regulatory capacity. While some African markets are currently small, they are growing and likely to grow much more quickly if freed from monopolistic restrictions. In the case of potentially competitive activities, any restrictions on entry should be viewed with suspicion. Indeed, even in activities that have traditionally been viewed as naturally monopolistic, a strong case can be made for permitting head-to-head competition between rival providers when networks are under-developed and regulatory capacity is weak. While economy of scale arguments support provision of such networks by a single supplier, and the creation of competing networks may thus involve some costs, competition between rival providers will usually be the most effective means of stimulating investment in network expansion, while at the same time reducing concerns over the misuse of market power. In the United States, for example, many infrastructure networks were developed initially in conditions of direct competition between rival electricity and gas distribution companies.

If any exclusive rights are to be conferred on private firms, international experience highlights the importance of carefully defining the scope of those rights from the outset. Particularly where the activity is potentially competitive, any exclusive rights should be as limited as possible in terms of duration, scope of activities, and geographic reach. In some cases, time-bound licenses or similar arrangements may be used to regularly re-visit the balance.
between monopoly and competition over time, without raising concerns over disturbing private property rights.

C. RULES GOVERNING MARKET CONDUCT

Operators of infrastructure investments may have their conduct regulated to meet a raft of possible policy objectives. For some activities, regulation may be required to meet public health, safety, or environmental requirements, and investors will require a clear definition of their responsibilities in these areas. Typically of much greater concern, however, will be any rules governing the prices firms can charge for their services.

Regulating Prices

A central issue in most infrastructure investments is pricing. When the enterprise operates at the wholesale level — such as an independent power project or private water treatment facility selling to a public utility — the price is usually settled through a contract between the two parties, often subject to adjustment formulae to deal with changes in input costs, exchange rates and the like. When the infrastructure enterprise sells directly to retail customers — such as water, electricity and gas distribution, or rail, ports, etc. — there is a threshold issue of whether any form of price regulation is necessary or desirable.

The traditional rationale for regulating prices for infrastructure services is to protect consumers from potential monopoly abuse, and hence to provide a “fair” sharing of the rents available in monopolistic undertakings. However, price regulation is not without its costs. While all regulation has the potential to impose costs by distorting incentives, infrastructure prices tend to be “political” in most countries, which makes price regulation particularly vulnerable to misuse by governments to advance short-term political objectives. Depending on its form, price regulation may also create other distortions in firms’ investment and operating decisions. Price regulation can also place heavy demands on regulatory authorities, particularly given the inevitable information asymmetries between firms and regulators. Each of these concerns is more acute in countries where governments have a long history of basing infrastructure pricing decisions on short-term political considerations, a limited track record in demonstrating the credibility of their pricing and other commitments to private investors, and limited resources with the skills necessary to administer often technically complex regulation.

The first priority in such environments should be to avoid the need for price regulation. As noted above, many infrastructure services are capable of provision in competitive markets, and market disciplines should always be preferred over price regulation. When assessing the potential for competition, the relevant market needs to be considered in a broad sense, taking into account potential competition from substitute products. For example, in many markets rail transport faces effective competition from substitute products. For example, in many markets rail transport faces effective competition from road transport, and in some markets electricity may be subject to effective competition from oil and other energy sources.
Chapter III: Legal and Regulatory Framework

Where this is the case, deregulation of the prices for such substitutes will place an effective cap on prices that can be charged even by "monopolists" in rail and power industries, thus reducing or eliminating the need for any price regulation. Many African countries — including Senegal, Mali, Côte d'Ivoire, Burkina Faso, Togo and Cameroon — have, for example, deregulated the price of rail freight transport.

Where the infrastructure enterprise enjoys substantial monopoly power, however, the question arises as to whether it may ever be feasible to grant complete pricing freedom.\(^4\) On the one hand, it might be argued that permitting such freedom will provide high-powered incentives to expand service coverage, and that demands for price regulation should be allowed to evolve as a constituency for regulation develops. Against this, however, experience around the world suggests that public demands for price regulation in this setting will become inevitable. When investors share this assessment, they may often prefer to submit to at least some loose form of price regulation from the outset, both to reduce calls for possibly more stringent regulation and to provide a refer-

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\(^4\) Even if monopoly power exists, it is not axiomatic that tight price or profit regulation is required. In some cases monopoly rents may be captured and redistributed through taxation, rather than imposing direct regulation.

**Box 3.3: Forms of Price Regulation — Risks, Incentives and Demands**

Where some form of price regulation is necessary, the key issue is the basis on which regulated prices should be adjusted to take account of changes in costs, demand, or other factors. This is a growing range of options from which to choose, with examples including traditional rate of return (ROR) regulation, price caps, and various hybrids. Each model has its strengths and weaknesses, and there is no approach that can be unambiguously recommended for all infrastructure activities in all settings.

**Rate of Return.** In its simplest form, ROR regulation involves assuring investors a maximum ROR on the investment. Its main advantage is the high degree of comfort it gives investors, thus lowering the costs of capital. In principle, it is possible to fix ROR for the life of even very long-term contracts, thus reducing the need for periodic renegotiation. Such a rule may be particularly attractive when the primary goal is to stimulate system expansion. The main disadvantage is the weak incentives investors face to reduce costs and operate efficiently, coupled with perverse incentives to over-invest in capital. Although ROR regulation can be administratively demanding, and can require analysis of large volumes of financial data, in its simplest form this task involves negligible discretion and can be contracted-out to consultants.

**Price Caps.** This form of regulation involves setting a general "cap" on prices, usually defined by reference to the general inflation rate plus or minus a factor representing anticipated productivity changes during the period of the cap (usually three to five years). During the cap period, adjustments to maximum prices are automatic; at the end of each cap period, productivity factors are re-set for the next period. The main advantage of this approach is the incentive it provides for firms to reduce costs and operate efficiently: if they achieve productivity improvements greater than those anticipated, they can keep the additional profits; conversely, lower than anticipated productivity improvements can result in losses. There are several offsetting disadvantages, however, the most important of which is the substantially greater risk investors face under this system, and hence the higher cost of capital. Productivity factors may be set at unrealistic levels either by mistake or by design, and investors must confront this risk every three to five years during the life of even long-term investments. This consideration may make price caps less attractive when the primary objective is to stimulate investment in system expansion. Although it was once thought that price caps might create less demands on regulators than rate of return regulation, a growing number of observers now argue that the reverse is true: regulators must still (at least implicitly) determine an appropriate rate of return and estimate productivity changes up to five years ahead. Tasks of this kind involve large volumes of information as well as considerable judgment and expertise; given the discretion involved, it is also more difficult to contract-out this work to consultants.

**Hybrid Approaches.** A growing number of hybrids are being developed which attempt to strike a balance between the certainty of rate of return regulation and the incentive effects of price caps. Some of the more sophisticated hybrids are quite complex to design and administer, however, and thus have implications for the demands on regulators, as well as the degree to which the rule is well-understood by the general population and hence accepted as reasonable.
ence point from which any future changes in price regulation can be negotiated. It is in this sense that price regulation can often be seen as a form of "investor protection," rather than just "consumer protection."

Other Regulatory Rules

While price regulation is typically investors' first concern, they will also require clarity on quality standards, investment obligations, environmental, health and safety and other matters. The link between price regulation and other matters can be important. Under a price cap system, any changes in standards that affect the costs of supply will be of vital concern to investors; any increase in those standards without an adjustment in price regulation will be tantamount to a price cut. In contrast, rate of return systems often allow investors to pass on automatically any increases in their costs, including increases resulting from changes in other regulatory standards.

D. IMPLEMENTATION: CONFRONTING CONSTRAINED REGULATORY CAPACITY

Rules of the kind discussed above require implementation mechanisms to be effective. Pricing or interconnection rules may require administration; compliance with quality and other standards may need monitoring; disputes between consumers and suppliers, between suppliers and the government, and among suppliers, may need to be settled; and non-compliance with regulatory obligations may need to be penalized.

Regulatory Capacity and Its Limits

The capacity to effectively implement regulatory rules involves two main ingredients, both of which are in short supply in many countries in Sub-Saharan Africa.

1. Technical Skills

Performing many tasks in infrastructure regulation requires technical skill and expertise. Monitoring compliance with technical, safety, health or environmental standards may require expertise in engineering or science. Administering pricing rules and other forms of economic regulation requires skills in micro-economics and finance. Performing any of these tasks within a detailed legal framework may also require legal expertise. And managing sensitive relationships between investors, consumers, and political authorities may require broader but no less important strategic and negotiating skills. Human resources with skills in these areas are scarce in many African countries, and often have a high opportunity cost.

2. Capacity to Resist Improper Pressures or Inducements

Regulatory frameworks attempt to strike a delicate balance between the conflicting interests of regulated firms, consumers, and the government itself. Each party has an interest in shaping regulatory decisions in order to advance its own interests. To be effective, the rules need to be administered and enforced according to their letter and spirit and in a way that
protects each party's legitimate interests. This is not likely to occur if regulators are subject to direction by authorities with short-term political considerations or are open to corruption, the latter being a particular concern in many African countries (see Box 3.4).

**Box 3.4: Corruption In Africa — One View**

"In many African countries (although in some more than others) corruption is a prominent feature of public life and appears to be sustained by established cultural attitudes and expectations. Moreover, it is invited by the state apparatus, which contains both resources and opportunities for corruption and rules and regulations which can be abused for personal or private advantage.

In African countries where corruption has been reported to be particularly widespread [...] it is regarded as a 'way of life.' As such, it is difficult to evade — for instance, by a refusal to make or receive bribes. It is a practical and acceptable stratagem which affords one a workable way of looking after one's needs and interests and achieving income and security. One Ghanaian scholar has commented that 'bribery (or corruption) affords the individual the greatest possible security. At present [in Ghana] the risk of being charged with giving or receiving a bribe is one in ten thousand.' Corruption is personal; it is between 'you' and 'me,' to the detriment of an invisible and impersonal third party — the state or the public interest. Indeed, where corruption is rampant, it is as if state institutions, offices, rules or regulations did not exist. Le Vine quotes a Ghanaian as saying: 'We Ghanaians are so accustomed to bribing our officials, and they to stealing our rate-moneys, that it would be considered odd if we didn't bribe and they didn't steal.' In Nigeria corruption has been described as 'built into the present accepted value system of [...] society.'"

Shortcomings of this kind are reflected in the broader institutional endowment of many African countries. In many cases, the courts and other public watchdogs are afflicted by the same concerns as other arms of the state.

**Dealing with Constrained Technical Capacity**

The are a number of options for attempting to deal with constraints in technical capacity.

1. **Design of Rules**

To reduce technical demands, rules can be designed to be as simple as possible, pre-specified, and self-enforcing. Competition may be used to reduce or eliminate the need for price regulation. Tariff or other adjustments may be linked to pre-specified formulas or external indexes. Other regulatory obligations can be specified as clearly and completely as possible to reduce the need for expert adjudication or discretionary judgment. Penalties for non-compliance can be pre-specified, and escrow accounts or other devices may be used to facilitate payments.

The main trade-off with this approach is that fixed and simple rules usually lack the flexibility to adjust to unforeseen circumstances: eventually, renegotiation of the rules may be required, creating risks for investors and (potentially) for the government, depending on where the balance of bargaining power lies at the time of re-negotiation. In addition, it is usually more difficult to create incentives for efficient performance with rigidly defined rules.

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5 Jackson and Rosberg (1982), emphasis added.
Box 3.5: Autonomous Regulatory Agencies in Africa — Worth the Effort?

Autonomous regulatory agencies are intended to foster the development and application of technical expertise on regulatory problems, and to do so with a degree of insulation from the day-to-day political process. The latter issue becomes particularly important if the regulator is entrusted with discretion on sensitive matters (e.g., tariff adjustments), and/or where conflicts may arise between a private investor and a state-owned entity.

The most sensitive issue in designing such agencies is usually the extent to which the regulator should enjoy freedom from political direction and control, including the statutory protections to be enjoyed (e.g., security of tenure during fixed terms) and the corresponding accountability mechanisms. International experience illustrates a rich menu of different approaches to this and other design issues.

African experience with autonomous or quasi-autonomous infrastructure regulators is very recent, and is largely limited to the telecommunications sector. Countries with established or newly forming specialist telecommunications regulators include Nigeria, Mozambique, Tanzania, and Ghana.

It is sometimes suggested that the likelihood of creating a genuinely "independent" regulator in Africa is so remote as to make the exercise counterproductive. Certainly, one should be realistic about the likelihood of any new regulator meeting any idealized notion of "independence" from political direction, and should not believe that the implementation of even the most sophisticated law or organizational design will transform the basic institutional environment overnight. Nevertheless, such initiatives are worth pursuing for two main reasons.

First, the usual ability of such agencies to sidestep civil service salary rules and to have access to earmarked funding should allow higher quality professionals to be recruited and retained, and external consultants to be financed. Adequate salaries may also reduce concerns over corruption.

Second, even if one takes a skeptical view as to the likelihood of the agency exercising independent judgment in the short term, a medium to long-term perspective is required when assessing the effectiveness of any new institution. Concentrating expertise in a body with a specialist mandate will usually sharpen commitment to professional norms, which can develop into a source of resistance to improper pressures. And as the regulator enters the fray and is seen to protect consumer interests, it will usually develop a constituency and hence an influence-base of its own that may help, over time, to increase resistance to inappropriate pressures.

While resources with the requisite technical skills are scarce in many developing countries, they typically become even more scarce at lower tiers of government below the national government. This consideration will often be an important argument for national-level regulation of infrastructure activities, even for services that may be primarily local in character (e.g., municipal level concessions). The trade-off with this approach is that concentrating regulatory authority in a large or diverse country may result in lost opportunities to adapt regulation to local conditions and priorities, and to stimulate more innovative regulatory approaches.

3. Creating Autonomous Regulatory Agencies

There are a number of reasons why governments might wish to consider establishing autonomous regulatory agencies (see Box 3.5). One advantage of this approach is that these agencies are typically exempt from civil service salary rules, which may make it easier to recruit and retain well-qualified professionals with the requisite technical skills.

4. Use of Cross-Sectoral Regulatory Agencies

Where regulatory agencies are to be established, there may be considerable advantages in creating them on a broad, multi-sectoral basis, rather than creating a proliferation of industry-specific agencies (see Box 3.6). These advantages include savings in scarce regulatory resources as well as greater opportunities to share experiences across sectors.
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**Box 3.6: Regulatory Agencies — Thinking Across Sector Boundaries**

In the early phase of infrastructure privatizations, countries such as the UK and Argentina created a proliferation of industry-specific regulators; i.e., one each for telecommunications, electricity, gas, water, rail, etc. The wisdom of this strategy is under challenge in both countries, and for reasons of particular resonance to countries with limited regulatory capacity.

There are two main options to the industry-specific model: multi-sectoral agencies (such as the Public Utility Commissions that exist in all states in the US and most Provinces in Canada, as well as being established in Jamaica and under consideration in Uganda and Congo; and sector-wide agencies, such as energy regulators in the US and Canada at the federal level, and in Hungary, Mexico and Colombia at the national level. Developing agencies with broader industry responsibilities has a number of advantages in most country settings, but which apply with special force in countries with limited regulatory capacity. Those advantages include:

- Opportunities to share regulatory resources across sectors; for example, some key professionals (e.g., economists, financial analysts, lawyers) can work across industries, and administrative resources can be shared;
- Opportunities to facilitate learning across sectors;
- Reduced vulnerability to industry "capture" by virtue of broader industry coverage;
- Reduced vulnerability to improper political interference by virtue of broader constituency;
- Reduced risk of inconsistent approaches to common issues (e.g., asset valuation, treatment of inflation, etc.) that can lead to product market distortions. This can be particularly important when there is a degree of substitute competition between the industries in question (e.g., electricity and gas; rail and ports, etc.).

It is sometimes suggested that agencies with a broader mandate may lack sufficient industry-specific expertise, although this concern can easily be dealt with by creating industry-specific technical departments to support cross-sectoral policy staff and decisionmakers. A second possible concern is that creating a multi-sectoral agency may impede progress with initial industry-specific reforms. However, there are a number of ways of dealing with this concern, including creating, say, a telecommunications-specific agency initially but adding additional sectors to its mandate as and when they are subject to reform. The alternative — of later trying to merge a proliferation of industry-specific regulators — has other problems, including the difficulty of reshaping institutional arrangements once incumbents (and clients) have turf to protect, as well as the delays in achieving savings and promoting learning during the critical early years of post-privatization experience.

5. **Contracting-Out**

A common device for reducing demands on regulatory resources is to contract-out certain tasks. Depending on the priorities and constraints in question, this may range from using consultants to produce analytical work to support key regulatory decisions, to contracting-out ongoing regulatory functions. For example, Chile contracts-out technical monitoring of water standards, and it is also possible to contract-out the auditing of regulated firms' financial accounts and a host of other tasks. It is also possible to contract-out certain categories of dispute settlement through domestic or international arbitration (see Box 3.7).

6 By analogy, Chad has introduced private contractors in tax collection with dramatic results, tripling collection rates in the petroleum sector, and countries, including Indonesia, have contracted out the administration of their customs regimes.
Box 3.7: International Arbitration, Infrastructure Privatization and Regulation

International arbitration is a form of dispute settlement under which the disputing parties agree to abide by the ruling of independent arbitrators, who are typically selected for their technical expertise in particular areas as well as their reputations for integrity. International arbitration has a long history in international trade and investment, where proceedings are typically held in a neutral third-country. While the cornerstone of arbitration is the consent of each party, to be effective the decision (or "award") needs to be enforceable in the country where the losing party holds assets. This is generally achieved by treating the award as equivalent to a judgment of a local court.

The regulatory framework for conducting arbitration and enforcing awards is generally provided by international conventions, the most important of which are the 1958 New York Convention and the 1965 Washington (or "ICSID") Convention. ICSID, the International Center for the Settlement of Investment Disputes, is part of the World Bank Group and specializes in investment disputes between foreign investors and host governments. Most countries in Sub-Saharan Africa are party to one or both of these Conventions, with the notable exceptions of Angola, Cape Verde, Ethiopia, Equatorial Guinea, Guinea Bissau and Namibia (see Annex B).

International arbitration is a potentially important part of the legal and regulatory framework for infrastructure privatization in three main contexts:

- Foreign investors will typically feel more comfortable submitting contractual disputes to a neutral and expert forum than to local courts, which may be perceived to be biased towards local parties, prone to political direction, slow, less expert, and sometimes corrupt.
- In some limited circumstances, arbitration may be an alternative to creating a separate regulatory agency. The key requirements would include that (i) the dispute in question relates to the interpretation and enforcement of a specific obligation, rather than the need to exercise a broader regulatory discretion in the public interest; (ii) political acceptance of the decision does not require participation by a broad range of interests in addition to the disputing parties; (iii) the dispute in question does not require urgent attention; and (iv) compliance with the arbitrators’ orders does not require ongoing supervision. Bilateral contracts in wholesale markets (e.g., power purchase agreements between independent power producers and state utilities) are more likely to meet these tests than more general disputes over performance standards or price regulation in retail segments (e.g., electricity or water tariffs).
- In some circumstances, arbitration may be adopted as an appeal mechanism from decisions of regulators. As in the previous case, a key requirement will be that there is some reasonably objective standard that can be applied in determining the appeal.

There are three main limitations to this strategy. First, there is the need to ensure that the contractor is not corrupted or subject to improper influences. Second, there will typically be limits as to the extent to which more discretionary tasks may be delegated, particularly given the need to ensure that the regulatory scheme as a whole is perceived by key constituencies to be a legitimate exercise of public authority. And third, the contracting-out strategy needs to take account of the longer term development needs of the regulator itself: in many cases, it will be preferable to have consultants work with regulatory staff so as to facilitate the exchange of skills, rather than having the task as a whole contracted-out.

Dealing with Concerns over Political Interference and Corruption

Some of the main options in this area are consistent with those for reducing technical demands, but have additional dimensions.

1. Reducing Discretion

Discretion has a number of potential benefits in the design of infrastructure regulation, including the capacity to adjust rules in light of changing conditions and to provide incentives for efficient performance. At the same time, creating discretion introduces the risk that it
will be misused, whether by the government to advance short-term political goals or by regulators to increase their own welfare. Where concern over the misuse of discretion is significant, the scope for discretion can be reduced by the choice of more rigid and specific rules, which are a common feature of regulatory systems in many developing countries.

2. Increasing Competition

Promoting competition in infrastructure activities has a number of important benefits in this area. Removing regulatory barriers to entry that are under the discretionary control of officials removes a lever for exacting rents. Product market competition reduces the rents available to firms that can be diverted by officials, and reduces the need for price regulation which can be another source for discretionary intervention. Increasing the number of independent firms in a market may also enhance the accountability of the system, since arrangements between firms and officials will be subject to close scrutiny by rival firms.

3. Increasing Transparency

A key mechanism to reduce concerns over misuse of regulatory authority is to prescribe large doses of transparency in the regulatory process. This may include requirements for open public decisionmaking and the need to give detailed reasons for decisions. Transparency increases the likelihood of inappropriate behavior being detected, and can also help to build public and investor confidence in the integrity of regulatory processes.

4. Creating Autonomous Regulatory Agencies

One of the objectives of creating autonomous regulatory agencies is to provide regulatory decisionmaking with some degree of insulation from inappropriate political pressures.

5. Increasing Salaries of Regulatory Officials

One part of the corruption challenge in many countries is very low civil service salaries — put simply, corruption is accepted as an essential source of income for officials. While increasing salaries of officials will not magically remove incentives for corruption, it can reduce the imperative for such behavior and thus contribute to a change in values and expectations. As noted above, the creation of autonomous regulatory agencies often provides a mechanism for side-stepping restrictions in civil service salary rules.

6. Vesting Decisionmaking Authority in a Commission Rather Than an Individual

In principle, regulatory bodies may vest decisionmaking authority in a single individual (e.g., the Directors General in the UK) or a commission or board, typically of three to five persons, (e.g., most US utility regulators). While vesting authority in an individual can enhance accountability and the speed of decisionmaking, a single individual may be more vulnerable to inappropriate influences than if a commission is involved.

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See Ades and Di Tella (1994).
7. Additional Safeguards

The more important the role and powers of regulators, the more important it will be that they act and be seen to act in the public interest, free from improper pressures from public or private sources. Autonomous anti-corruption bodies, such as Botswana's Directorate on Corruption and Economic Crimes, can contribute to a more conducive environment for regulation, and thus enhance the credibility of a government's regulatory commitments. ^8

Building Regulatory Capacity

The above strategies focus on pragmatic, short-term responses to weaknesses in regulatory capacity. Over the medium to longer term, however, the goal will be to build and strengthen regulatory capacity. Options in this area include many of the traditional tools of technical assistance, such as training and recruiting external advisors to coach and mentor newly-appointed regulators. Two additional measures are emerging as important tools in the long-term institutional development of utility regulators.

1. Twinning Arrangements

Twinning relationships between nascent regulators and more experienced regulators from other jurisdictions can be a powerful tool for supporting institutional development. These kinds of arrangements facilitate practical experience in relevant functional areas; integrate technical assistance with training and exchange opportunities; and offer a foundation for long-term cooperative relationships. A growing number of regulators from OECD countries are participating in twinning arrangements with regulators from developing countries.

2. International Cooperation Between Regulators

The potential benefits of expanding international contacts and cooperation between utility regulators extends far beyond the bilateral relationships reflected in twinning arrangements. Increasingly, the new cadre of regulators in developing and reforming countries is reaching out to share lessons of experience both with more experienced regulators and regulators at a similar level of development. Informal exchanges of this kind facilitate the flow of technical know-how and help to reinforce professional norms.

In the US, cooperative relationships between state and federal utility regulators are organized through the National Association of Regulatory Utility Commissioners (NARUC), which also is a framework for the development of joint training programs and research on common regulatory problems. As the number of African countries establishing autonomous regulators increases, there may be scope for establishing similar arrangements across Africa. The World Bank has recently launched an International Forum for Utility Regulation which will support exchanges, training, and other cooperative activities in this area.

^8 Coolidge & Rose-Ackerman (1996).
IV. Confronting Non-commercial Risks

Many of the special risks faced by potential investors in Africa are due to a legacy of political instability and, in many cases, the weak credibility of government commitments. Risks are particularly acute in the infrastructure sector, where investments tend to be large and immobile, and where tariffs tend to be "political." As revenues from most infrastructure services are denominated in local currency while obligations to suppliers, lenders, and shareholders are often in hard currency, currency convertibility and transfer risks are also significant for investors, particularly given the macroeconomic difficulties experienced by many African countries. Additional non-commercial risks that may be particularly sensitive to investors in some African countries include the risk associated with war or civil strife and the risk of expropriation.

**Box 4.1: Political Risk in Africa — How Do Countries Compare?**

*Euromoney* compiles rankings of political risk based on a poll of risk analysts, risk insurance brokers and bank credit officers, each of which is asked to rank countries from 0 to 25. A score of 25 indicates no risk of non-payment; zero indicates that there is no chance of payment being made. Countries are scored in comparison both with each other and with previous years. The risk was defined as the risk of non-payment for goods or services, loans, trade-related finance and dividends, and the non-repatriation of capital.

Findings of the March 1996 survey for African countries are summarized below. In the survey, only Switzerland received 25 points, followed by Japan, the US, Luxembourg, Germany and the Netherlands which each scored above 24. At the bottom of the list were Iraq, Rwanda, and Zaire, with Somalia receiving the minimum score of zero. Mauritius was placed above countries including Indonesia and Argentina.

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<td>5.58</td>
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1 Piggott (1996).
Privatizing Africa’s Infrastructure

The findings summarized in Box 4.1 show that perceived political risks remain very high in Africa as a whole. However, the picture which emerges is far from uniform across the continent. While a majority of countries still score poorly, some others have steadily increased their standing in recent years. So much so in fact, that a handful of African countries are today considered less risky than Argentina (Rating = 12.06), where infrastructure privatization has proceeded apace.

A. SOURCES OF NON-COMMERCIAL RISK

Investments in infrastructure are typically large and capital intensive. Once made, these investments are generally immobile: an investor cannot usually move a facility to another country if faced with adverse changes in economic or political conditions. Similarly, infrastructure investments tend to be specific, in the sense that investors cannot readily convert a power plant, water treatment plant, or railway to an alternative use. This gives investors a long-term perspective: they must appraise risk and returns over a long time horizon, which may include several changes of government even in stable countries.

While risk appraisal is relevant to all infrastructure investments, it usually takes a much sharper focus with projects that require the mobilization of significant debt financing. Unlike providers of equity, providers of debt receive fixed returns, reflected in interest payments, and have no upside potential. They thus tend to be more conservative in assessing risks that affect the likelihood of repayment, and for this reason lenders usually drive the risk mitigation process.

Investment in infrastructure projects carries with it a large number of risks, many of which are “non-commercial” and hence primarily under the control of the host government. To mitigate these risks, the government’s commitment to respect its regulatory and other undertakings needs to be credible. Weaknesses in the credibility of those commitments constitute risks to the investor, which will be reflected in higher costs of capital and ultimately in higher prices to users. When the risks are perceived to be disproportionate to the potential rewards, private investors will simply shun the project in question.

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2 Economisti Associati (1994).
Chapter IV: Confronting Non-commercial Risks


1. Tariff Matters

As discussed in Chapter III, tariff regulation often lies at the heart of the legal and regulatory frameworks for infrastructure. The underlying problem is that most infrastructure services are of mass consumption, which tends to politicize tariffs. Particularly when there has been a long history of heavily-subsidized prices, private investors are often acutely sensitive to the risk that, once the investment is made, government will renege on its pricing commitments in order to advance short-term political objectives. A Bangkok tollway provides an interesting example (see Box 4.3).

Box 4.3: Opening of a Bangkok Tollway

To help relieve heavy traffic congestion around central Bangkok, the Thai government awarded a contract for a twelve-mile six-lane private tollway to Bangkok Expressway Company, Ltd. (BECL), a consortium led by the Japanese construction company, Kumagai Gumi. The build-operate-transfer (BOT) contract specified a toll of about 30 Baht, or US$1.20.

As the project neared completion, the government reneged on its agreement, setting a new price of only 20 Baht. The operator insisted on delaying the scheduled opening of the road until this and other contract disputes were settled. The government responded by obtaining an order from a local court requiring the road to be opened to traffic. When the deadline set by the court passed without any action by BECL, the government began operating the tollway unilaterally. This expropriation forced BECL to the verge of bankruptcy.

2. Parastatal Breach of Contract — Off-take and/or Supply Risks

Some infrastructure projects depend critically on the reliable supply of inputs from another supplier. In the case of power generation projects, for example, the investor may depend critically on fuel supplies. Where that input is the responsibility of a state-owned company, the investor may be particularly concerned over the reliability of supply. Similar issues arise relating to off-take obligations.

3. Other Regulatory Obligations

The regulatory arrangements will typically deal with a range of other matters, ranging from environmental, service, and safety standards to the responsibility for acquiring land. Changes to any of these elements without appropriate adjustments to tariffs has the potential to affect viability of the project, as may changes in tax obligations.

Convertibility/Transfer Risk

Most large infrastructure investments involve obligations to equipment suppliers, lenders, and equity holders denominated in foreign currency. In some cases, the project will generate sufficient foreign currency revenues to cover such obligations. This could be the case in telecommunications, where international service is a source of foreign currency. The same is often true for airports, as foreign carriers usually pay in hard currency. In contrast, revenues from water and electricity distribution, local telecommunications and local transport, for example, are almost exclusively denominated in local currency. In these cases, the investor will require assurance regarding the convertibility and transfer of foreign exchange.
As a result of severe foreign exchange shortages, in the 1970s and 1980s many African countries imposed restrictions on capital outflows, including profit remittances. In countries that use the Franc CFA currency, remittance was, until recently, less problematic since convertibility with the French franc at a fixed rate was automatic. But since 1990, restrictions within the banking system of the CFA countries have effectively reduced the automaticity of transfers even in those countries.

Over the years, many governments recognized that their foreign exchange control laws were a strong disincentive to foreign investors. The solution adopted in many countries was to guarantee foreign investors a right to repatriate capital and profits, thus exempting them to a certain extent from the otherwise restrictive foreign exchange regime. However, formal legal restrictions have seldom been the key problem in relation to the repatriation of earnings. The most effective constraints on the repatriation of dividends and capital by the early 1980s were the foreign exchange “queues” that existed in most African countries. This was an arrangement by which central banks of countries facing balance of payments difficulties allocated scarce foreign exchange to eligible companies. In practice, this meant the foreign investor’s right to remit profits could not always be implemented.

A solution to this problem is to liberalize currency markets, which generally makes it easier for investors to repatriate earnings. Though freer exchange rate regimes have increased the cost of foreign exchange, they have at the same time improved foreign exchange accessibility and reduced delays associated with central bank queues. As part of structural adjustment programs, a number of countries (such as Ghana, Uganda, and Tanzania) have adopted a free market in foreign exchange — commonly referred to as forex bureaus — in which transactions are not controlled by central banks. The problem has been that in some cases (such as in Nigeria and Zambia), the operation of the free market in foreign exchange has often been suspended; delays in the mechanics of remittance then recurred, thereby reducing investor confidence in the scheme.

**War and Civil Disturbance**

Large and immobile investments can be particularly vulnerable during times of war and civil disturbance. Assets may be damaged, destroyed or rendered idle for sustained periods. The
recent history of war and civil strife in some parts of Africa clearly affect investors' perceptions of risk.

**Expropriation**

Under international law, countries retain the right to expropriate foreign property in some circumstances, although there is debate over the standards of protection offered private investors.\(^3\) Large and immobile investments are particularly vulnerable to expropriation, with the risk increasing in infrastructure activities that are perceived to be “strategic,” and when foreign rather than local investors are primarily affected.\(^4\) The recent experience of SOGEA in the Gambia illustrates that expropriation, even though a relatively rare occurrence, can still represent a real risk for investors in Africa (see Box 4.5).

**Box 4.5: Expropriation in the Gambia’s Water and Electricity Sectors**

In July 1993, after an international competitive bidding process, SOGEA, a subsidiary of the French water company Compagnie Générale des Eaux, was awarded a ten-year lease contract for water and electricity by the Gambian government. SOGEA was responsible for operating and maintaining the water and electricity systems as well as for renewing small infrastructure assets (pumps and 200 mm pipes in the water sector, low-voltage equipment in the electricity sector). A state holding company remained in charge of all other investments.

The relationship between the private and public parties gradually became strained for several reasons. First, the respective responsibilities of the parties were not clearly specified in the contract. Frequent disputes arose, in particular on the question of whether a specific asset had to be replaced or further maintained (a common problem in lease contracts, as discussed in Chapter 1). Second, the lack of financial resources of the state holding company constrained investments and affected the performance of the lessee. Third, if the lessee were to invest more than was required by the contract, a clause provided that the additional benefits accruing thanks to these investments had to be reimbursed to the lessor. In those conditions, the lessee and the lessor were bound to dispute each other's estimates of such benefits. Fourth, the authorities refused to apply contractual indexation clauses which provided for immediate tariff adjustments if the tax regime were changed and for periodic revisions every six months to reflect inflation. After one year, the lessee started to exact compensation by withholding the fraction of the tariff normally reserved for the state holding company, thereby increasing the financial difficulties of the latter. In addition, a 25 percent tax increase was levied on gasoline soon afterwards and tariffs were not adjusted. Fifth, during the course of the contract, a new military government seized power and started to cast some doubts on the fairness of the contracts concluded under the earlier administration. Finally, after one-and-a-half years, the lessee insisted on obtaining a tariff increase and started to disconnect large numbers of small customers who were not paying their bills (20,000 electricity customers — or half the total number — who represented only fifteen percent of total sale volumes were disconnected). Many users complained, prompting the government to intervene.

Two months after the start of the disconnection campaign, in February 1995, the operating company established by SOGEA was expropriated.

An agreement has recently been reached between the two parties. SOGEA agreed to reinstall the computerized billing system that it had created and to invest the money that it obtained from a service contractor that it had been suing, in a second-hand power plant. The power plant, which is desperately needed to alleviate black outs, would be held as a joint venture by SOGEA and the government. In exchange, the Gambian authorities accepted to place water and electricity revenues on an account held jointly by the government and SOGEA. A fraction of those revenues is to be allocated to SOGEA to compensate for the investments that it had made prior to being expropriated and to remunerate its capital in the second-hand power plant.

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\(^3\) Kronfol (1972).

\(^4\) For a discussion of historical experience, see Wells and Gleason (1995).
B. MITIGATING RISK: COMMITMENT DEVICES AND STRATEGIES

The usual mechanism for allocating and mitigating risks is through legal obligations expressed in contractual and other arrangements. As discussed in Chapter III, however, the framework for securing compliance with legal obligations in many parts of Sub-Saharan Africa is not fully developed. In this setting, investors will be looking to a variety of additional risk mitigation devices and strategies.

Buttressing Government Commitments: Self-Protection

In addition to relying on commitments expressed in the contractual or regulatory regime, the investor will often seek to minimize or mitigate risks in other ways.

1. Targeting Lower-Risk Activities

The risks associated with infrastructure investment are not equally present in all projects. Where there is concern over the government reneging on commitments to consumer tariffs, the investor could target sectors where the political economy of tariff regulation raises fewer risks. For example, tariffs for retail electricity, water and passenger transport are typically the most politically sensitive, whereas those for telecommunications, airports, ports, freight transport, and bulk supply of power or water to a utility are usually less so. Also, the risk of political opposition to foreign entry might be less serious when new assets are being built (new IPPs, for example) than when the existing system is being privatized.

Similarly, where foreign exchange concerns are particularly sensitive, the investor could target activities that generate hard-currency revenues — such as ports, airports or export-oriented power projects — rather than urban public services. Priority could also be given to countries where local suppliers are available and where it is possible to raise domestic rather than foreign capital to limit the amount of foreign currency needed.\(^5\)

Finally, the investor could attempt to mitigate the risk of long-term and fixed capital investments by favoring more mobile technologies. Examples include cellular telephony rather than fixed-wire, or placing power plants on barges, an approach recently adopted in Honduras and Jamaica.

2. Establishing Countervailing Bargaining Power

A second set of strategies is for the investor to structure the investment in a way that equips him with some countervailing bargaining power. Put crudely, the risk of arbitrary government action is reduced by the possibility of imposing counter-threats. Opportunities for implementing this strategy will typically vary from sector to sector.

In the case of long-distance telecommunications, the investor might credibly threaten to withdraw service and hence “cut the country off” from the rest of the world if the govern-

\(^5\) On the advantages associated with raising national rather than foreign capital and on the measures which can be adopted to facilitate access to domestic sources of finance, see Chapter V.
ment reneges on its commitments. Similarly, the threat of withdrawing essential skills and expertise from export-oriented activities may also assist in protecting the investor. Against this, investments that involve lower levels of skills and expertise for their operation will offer the investor less leverage. Perhaps the extreme case is a private tollroad which, once built, will afford the investor with limited leverage, because a government could simply remove the toll barriers, as happened in Thailand recently.\textsuperscript{6} The situation with power and water projects will probably lie between the two extremes, with much depending on the availability of indigenous resources to operate the technology to at least minimal performance levels.

Where the project itself offers limited leverage of this kind, the risk-averse investor may seek to enhance his leverage through use of escrow accounts.

3. **Entering Partnerships with Government**

Public-private joint-ventures for infrastructure investments are a common model in many reforming countries. The private investor may find this strategy advantageous in several ways. First, government equity participation is a strong signal that the government supports a particular project, and may thus be more serious in expediting approval processes and otherwise facilitating the project. Second, where the government benefits from the revenue stream from a project, it shares an interest in the project’s profitable operation, and hence may be less likely to renge on regulatory and other commitments. Third, public participation may help defuse domestic political resistance to private involvement, and thus reduce pressures on the government to pursue shorter term non-commercial objectives. Finally, participation by the government (or a strong SOE) may enhance the bargaining position of the project vis-à-vis other governmental entities or private suppliers or customers.

This is certainly not to suggest that government equity participation will always be desirable. In particular, substantial government equity participation may bring with it an expectation of ongoing control over the project, thus undermining the goal of maintaining arm's length regulation of the firm, and potentially perpetuating the failings of the public enterprise model. For example, in the case of Cameroon’s airport privatization, where the government retained a 29 percent stake in the newly formed private operating company, the lack of a clear definition of roles between the government and the private operator, which owned a 34 percent share, presented obstacles to the privatization process. A disagreement between government and private sector shareholders over the structure of the Board of Directors effectively blocked the company’s business development. In addition, government participation may make it more difficult to promote entry by competitive projects or to allow effective competition if the government has equity in each of the competitors: while the government has a (desirable) interest in ensuring the project is profitable, it may also face incentives to maximize those profits by preferring more monopolistic arrangements.

For these reasons, it will usually be desirable to ensure that government participation does not prevent the private investor from exercising effective management control over the project. Hence, a minority public interest will generally be preferred, although it is possible to engineer arrangements such that the private firm has management control even if the gov-

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\textsuperscript{6} See Box 4.3.
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ernment has a larger share of the equity. Moreover, to avoid possible conflicts between the
government’s role as co-owner and regulator, some separation of bureaucratic responsibili-
ties is highly desirable, whether through establishment of an autonomous regulator or plac-
ing responsibility for the two roles under different ministers.

4. Entering Partnerships with the Local Private Sector

Participation by local private sector partners may also provide comfort to foreign investors.
Local partners will be more familiar with local operating conditions and the culture. They
may also be able to help mobilize local equity and debt for the project, thus reducing to
some degree the project’s exposure to convertibility and foreign exchange risks.

Where the local partner has good relations with the relevant authorities, this may also help
to facilitate approval of the project and reduce the risk of adverse governmental interfer-
ence. Of course, partners need to be chosen with a long time horizon in mind, as a regime
change may convert a particular local partner from an asset to a liability. For this reason,
more diffuse local participation arrangements may be preferred.

A government may be less prone to renege on regulatory commitments if local as well as
foreign interests are involved: in this respect, public offerings on the stock market and in-
vestments by local insurance or pension schemes may be particularly attractive, given the
larger share of the population who would then have an interest in the project’s profitable
operation. The sale of SODECI and CIE shares on the Abidjan stock market was executed,
at least in part, in the hope that building a local constituency with a direct stake in the com-
panies and increasing the visibility of those companies would help reduce the risk of politi-
cal interference.

Finally, as with government participation, participation by local private interests may help to
reduce domestic political resistance to private provision.

5. Transferring Technology and Hiring Local Personnel

Transferring technologies and progressively replacing expatriates by local employees can
also reduce the risk of political backlash against private infrastructure projects. This policy
has been actively pursued, for example, by SODECI, the private water operator in Côte
d’Ivoire, which has progressively replaced French expatriates and personnel from neighbor-
ing countries with Ivorian nationals. In addition, in 1993, close to 900 employees partici-
pated in training sessions in various disciplines. Each annual report of the enterprise men-

7 For example, in the first stage of the privatization of MATAV, the Hungarian telecommunications
company, strategic investors were given effective control over the company even though they held only 30 per-
cent of the equity and did not control the board.

8 For example, the state’s ownership interest might be represented by a state holding company or the
Finance Ministry, rather than the sectoral ministry. If ownership responsibility is to remain with the sector minis-
try, regulatory responsibility might be transferred to a separate agency or ministry.

9 In 1960, 100 percent of SODECI’s capital belonged to French interests. Today, 43 percent belongs to
private Ivorians, 5 percent belongs to SODECI’s personnel and 4 percent belongs to the State. French stakeholders
(SAUR and EDF) have already sold 12 percent of CIE’s capital on the stock exchange and are planning to
sell another 13 percent in the future.
tions the rate at which French expatriates are being replaced by nationals (there were more than 40 French expatriates in 1960, representing more than 10 percent of the personnel; there are only 12 French expatriates today, representing less than 1 percent of the personnel) and stresses the fact that SODECI is an Ivorian company with a national as Chairman of the Board.

Some observers insist that project sponsors often try to maximize, rather than minimize, the number of expatriates sent from headquarters and paid for by the project company. They argue that it is a way for a given sponsor to siphon-off some of the profits of the project company and reduce the total amount of profit which must be shared with the other shareholders. A solution proposed by some sponsors to eliminate the incentive to increase the number of expatriates, is to enter into an agreement according to which the parent company “lends" expatriates at cost-price, but receives, in addition, a commission to reward its expertise independently of the actual number of expatriates working within the project company. Such a scheme has been implemented in Cambodia by Aéroports de Paris.

6. Building Comfort Through Gradually Increased Forms of Participation

Another strategy that may be appealing to some investors is to limit initial exposure to risks through management contracts or leases before committing investment capital. In Côte d'Ivoire, the decision of firms to invest in a new US$70 million IPP followed nearly five years experience operating as lessor of the system (see Box 1.9). Similarly, private involvement by SODECI in Côte d'Ivoire's water and sanitation sector grew over time. A lease was signed in 1960 which covered only water supply in Abidjan. In 1974, SODECI signed a management contract for the sewerage and drainage system in the capital and the water supply lease was extended to all urban and rural centers in the country. Finally, in 1987, a new contract was negotiated in the water supply sector, restricting SODECI's action to urban centers only but increasing its responsibilities and incentives to perform (see Box 1.6). A plan was also drawn up to transform, in the future, SODECI's management contract for sewerage and drainage services in Abidjan into a lease. The current growth in the number of management contracts in Africa's infrastructure may presage future investment commitments once private firms, the government, and the general public grow more comfortable with private provision. Management contracts may also be used to improve the functioning of companies and to undertake some basic restructuring before assessing privatization options in more detail.

While this strategy may be attractive to cautious private investors and governments, it is not without its potential downsides. First and foremost, there is a delay in attracting investment capital and hence the government making a fuller commitment to cost-covering tariffs and other sound policies. There may also be concern that the contractor may be motivated in part by the goal of obtaining a privileged position on any subsequent concession or divestiture; the contractor will have privileged access to information on the enterprise and its market, and this fact alone may deter other potential bidders and make introduction of competitive bidding more difficult. In some cases there may also be concern that the contractor may face incentives to manage the business in a way that precipitates a fuller privatization in

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10 The economic rationale for paying such a commission is that the infusion of expertise in the company by one shareholder creates a benefit for the other shareholders.
which it expects to enjoy such a privileged position, even if this involves incurring short-term losses through penalties under the management contract. For these reasons, such transitional approaches need to be considered with care.

**Buttressing Government Commitments: Inter-Governmental Mechanisms**

A number of inter-governmental arrangements or mechanisms have been devised to offer some degree of protection to private investors. By carefully using such instruments, governments can strengthen the credibility of their commitments and hence lend confidence to private operators considering whether to take the risk of investing in private infrastructure projects. Some of the main mechanisms are outlined below.

1. **Bilateral Approaches**

   (a) **Bilateral Investment Treaties**

   One mechanism for foreign investors to gain comfort against expropriation or adverse action by the host country is if the investor's home country has concluded a bilateral investment treaty. While the contents vary, these treaties typically prescribe general standards of fair and equitable treatment and contain prohibitions against discrimination by reference to national and/or most favored nation standards. In addition, they contain clauses dealing with specific aspects of investment relations, such as the transfer of payments and the repatriation of capital and profits, losses due to armed conflict or international disorder, nationalization and expropriation, and the settlement of disputes. Elevating these norms to the level of international treaty obligations will usually give investors greater comfort than the same norms expressed only in commercial agreements or domestic legislation.

   A growing number of African countries are concluding treaties of this kind. As of May 1996, over 130 bilateral treaties had been signed, many with the home countries of major international investors in infrastructure (e.g., France, UK, US, Belgium, and Germany). Only Angola, Botswana, Comoros, Djibouti, Malawi, Mozambique, and the Seychelles have not entered any bilateral investment treaties, while Senegal has concluded as many as ten (see list in Annex C).

   (b) **Political Risk Insurance**

   A second way the home governments may support the international investment activities of their nationals is through political risk insurance offered by agencies such as OPIC in the US. To qualify for OPIC insurance, the insured must be a US majority-owned and controlled company, and the investment must be in an eligible country (of which there are around 100). OPIC may cover both third-party debt and equity, subject to a limit of US$200 million per project. It can provide coverage against expropriation and convertibility, but not breach of contract by a state-owned company unless the act is deemed an act of expropriation, confiscation or nationalization. Annex D lists the various types of political risks covered by the bilateral agencies of different countries.

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(c) Leverage Through Broader Bilateral Interests

In addition to formal treaty commitments and insurance products, many governments indirectly support the investment activities of their nationals through their involvement in numerous commercial, developmental, and cultural activities in the host country. From the investor's perspective, this involvement provides some comfort against possible arbitrary government action, since to do so could jeopardize relations with important bilateral donors. Sometimes, direct financial support can also be provided through equity or debt participation. For example, the Caisse Française de Développement (CFD) is lending to the CIPREL independent power project in Côte d'Ivoire as well as to Aéroports de Paris for its project in Cameroon.

2. Multilateral Approaches

(a) Multilateral Investment Guarantee Agency (MIGA)

MIGA's political risk insurance can be used to guarantee investments against losses resulting from four types of risks: currency transfer; expropriation; war and civil disturbance; and breach of contract. Some 14 percent of MIGA's guarantee portfolio is for infrastructure, and it has extended guarantees for private power projects in Jamaica and the Philippines that covered risks of currency transfer, expropriation and war and civil disturbance, and in Honduras for risks of expropriation and war and civil disturbance. MIGA guarantees can cover inter alia: shareholder equity, debt, and debt guarantees, as well as non-shareholder debt. However, to cover non-shareholder debt it must cover an equity form of investment at least in a proportion of 1:4. Guarantees are currently subject to a total exposure limit of US$50 million per project and US$175 million per country.

Most countries in Sub-Saharan Africa are members of MIGA, and thus potentially eligible for its guarantees. So far, MIGA has issued guarantees for non-infrastructure investments in Cameroon, Ghana, Madagascar, Mali, South Africa, Tanzania, and Uganda, but has not yet completed guarantees for infrastructure investments in Africa.

In addition to providing guarantees using its own financial resources, MIGA can support such insurance drawing on the financial resources of member countries. First, pursuant to the Sponsorship Trust Fund (STF) mechanism provided for in MIGA's Convention, one or more MIGA countries (the sponsors) can undertake the financing of a trust fund which MIGA would then use to finance insurance coverage for investments specified by the sponsors. Second, MIGA could also administer guarantees issued by countries, in particular host countries. Neither of these two mechanisms has yet been employed, although the latter is under consideration.

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12 This covers both the inability of the investor to convert local currency into foreign exchange and the inability of the investor to export foreign exchange from the host country.
13 MIGA can insure investors against host government breach of contract if the investor is denied the right to enforce a favorable judgment regarding the breach. See MIGA (1993).
15 Exceptions are Central African Republic, Comoros, Djibouti, Liberia, Sao Tome & Principe, and Somalia. Burundi, Chad, Eritrea, Gabon, Guinea Bissau, Niger, and Sierra Leone are in the process of completing membership.
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(b) International Finance Corporation (IFC)

The IFC can invest in or lend directly to private projects without repayment guarantees from the government, and is supporting infrastructure projects through debt, equity, or quasi-equity instruments in most corners of the world.

It has participated in cellular telephony projects in Zaire, Tanzania, and Uganda and in the CIPREL independent power project in Côte d’Ivoire. IFC also provides guarantees to lenders, but this activity represents only a small part of its portfolio.

In addition to contributing its own resources to specific projects, IFC can act as a catalyst in attracting other investors and lenders into projects, as private investors may draw comfort from the fact that participation by a major multilateral institution may increase the stakes for a government considering whether to renege on its regulatory and other commitments. The scheme set up by IFC to increase investors’ confidence and interest in the privatization of the Hungarian Telecommunications Company Ltd (MATAV) provides an example (see Box 4.6). A similar type of mechanism is currently being considered to facilitate the privatization of SET, the national Congolese telecommunications operator.

Finally, as it is generally seen by governments as a relatively “neutral” and “independent” body, IFC can help strengthen government commitment in favor of reform through the advice that it provides. In fact, some transactions might not have taken place without IFC’s involvement in its capacity as a trusted advisor.

(c) IBRD/IDA Guarantees

IBRD can help to mitigate risks in private infrastructure projects through the guarantee program. There are two types of IBRD Guarantees — partial risk guarantees and partial credit guarantees. Partial risk guarantees can cover risks associated with force majeure or government commitments to a project, for example, the stability of the regulatory regime, the tariff formula, and the credit risk of non-payment by a utility.\(^\text{16}\) A partial risk guarantee was

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Box 4.6: IFC’s Role in the Privatization of MATAV

It 1992, the Hungarian authorities decided to prepare for the sale of 30 percent of the common shares of the Hungarian Telecommunications Company (MATAV) to a strategic investor, which would also acquire management control. During the privatization process, IFC subscribed the equivalent of almost US$30 million in preferred shares of MATAV in order to immediately provide for a much needed capital increase and to increase potential investors’ confidence ahead of the bidding. The subscription of MATAV’s common shares was avoided as it would have been interpreted as setting a benchmark price for the common shares just before the tender process.

In order to provide maximum flexibility to both IFC and the strategic investor, the following exit strategy was devised. At privatization, the strategic investor had the right to purchase IFC’s shares at cost plus a premium, and IFC, for its part, had the right to sell its shares to the strategic investor at costs plus dividends. If the call and put options were not exercised, IFC had the right to convert its preferred shares into common shares at the price paid by the strategic investor. IFC’s shareholdings could however not exceed five percent of HTC’s increased ordinary equity. In addition, it was provided that if the privatization did not take place within three years from the date of IFC’s investment, IFC was obliged to redeem IFC’s shares at cost plus a premium.

At privatization, the call and put options were not exercised and IFC converted its preferred shares into common equity, which it continues to hold.

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\(^\text{16}\) IBRD’s Articles of Agreement do not distinguish between types of risks, but in practice, the World Bank has focused its attention on political risks. See Benoit (1996).
provided for Pakistan’s Hub Power Project (see Box 4.7). The *partial credit* guarantees covers the entire repayment risk for a designated part of the financing. These guarantees can encourage the transformation of short-term to long-term financing by covering a part of the commercial financing, usually the later maturities. Both forms of guarantee cover loans only and require a counter-guarantee from the government.

**Box 4.7: IBRD Partial Risk Guarantees — The Hub Power Project**

The Hub Power Project in Pakistan — a 1,292-MW oil-fired steam power plant — is the developing world’s largest private infrastructure project. The IBRD gave comfort to lenders to the project by guaranteeing that default in debt payments would be covered if certain government obligations were not fulfilled. Obligations of most concern to lenders included: currency convertibility; transfer and exchange rate; undertakings of public sector entities such as WAPDA, which signed a take-or-pay contract with the project company; commitments and incentives contained in the concession contract with the government; and maintenance of the legal and regulatory regime. The Japanese Export-Import Bank (JEXIM) provided an identical guarantee. Although the IBRD and JEXIM guarantees covered only US$240 million and US$120 million respectively in a project which cost US$1.83 billion, the guarantees provided reassurance to others not explicitly covered by reinforcing the commitments of the Pakistani Government.

IBRD can also implement guarantees through put options. It can, for example, provide a put option to holders of long-term project debt, pursuant to which they are entitled to sell their loan to IBRD after a certain number of years. The effect of this instrument is identical to that of a partial credit guarantee as it isolates lenders from credit risks posed by the debtor. “Partial risk” put options could potentially also be granted, which would provide lenders with political risk coverage.17

IDA’s Articles of Agreement empower IDA to provide guarantees of loans. However, up to now, IDA has not activated this power to issue guarantees and, so far, IBRD guarantees have been deployed only in IBRD and IBRD/IDA blend countries.18

In order to develop those guarantees as transitional instruments, the feasibility of including automatic reduction or cancellation provisions upon achievement of certain specified events should be assessed.19 A general discussion of the pros and cons of guarantees is presented below in Box 4.8.

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7 See Benoit (1996).
8 An exception could potentially be made for certain “enclave” projects in IDA countries. See Benoit (1996).
9 See Ruster (1995).
Box 4.8: Guarantees in Infrastructure Privatization
— Some Pros and Cons

Multilateral guarantees of regulatory risk are a recent phenomenon; an empirical assessment of their effect will not be possible for several years. Meanwhile, policymakers seeking an international guarantee — and the donor governments and multilateral institutions in a position to offer one — should carefully consider the following pros and cons.

Pros: The guarantees might:
- Improve the government's credibility and boost investor confidence, leading to greater private capital flows. As mentioned above, the guarantees granted for the Hub Power Project provided comfort to investors and seem to have given the project access to previously unavailable finance. Ideally, once the government has performed in accordance with guaranteed obligations in this and a few other projects, investors would no longer demand such guarantees.
- Tie the hands of a future administration that might otherwise violate an agreement entered into by the existing administration. If a new government were tempted to renege on commitments made by its predecessors, donor or multilateral guarantees would raise the cost of reneging, since doing so would have numerous negative spillover effects — not the least of which may be a halt to further donor and/or multilateral assistance. By raising the cost of reneging, guarantees reduce the likelihood that successor governments will backslide.

Cons: The guarantees might:
- Become too broad. One advantage of privatization is that it taps the efficiencies generated by incentives associated with private profit making. But if guarantees cover most or all of the risks, private investors will have little incentive to run the enterprise better than bureaucrats did before privatization.
- Be difficult to price. The guarantor will want to charge a fee for the guarantee to cover its costs (including some of the risk of holding a contingent liability) and to signal investors that their reduced risk is not without a price. The problem is that there is no clear market for such regulatory risk, and even if there were, guarantees, like other assets, can be mispriced. Also, a fee structure that did not vary according to different levels of coverage or risk or, more generally, a vague guarantee that did not precisely delimit the exposure for the guarantor, the authorities, and private participants might send incorrect signals to financiers. In particular, it might lead them to demand more coverage than was optimal for the country. Although guarantees can lower the rate of return investors demand, they are not free to the consumer, since companies usually pass on the cost of the guarantee in the form of higher prices.
- Reduce, rather than enhance, credibility. If other private investors mistakenly take the guarantee as a signal that the country is likely to renege, it could lead to credibility problems in international markets.

In sum, guarantees appear to be useful when a government is committed to reform but has a history that hurts its credibility, thus raising the return that investors demand or making attracting investors difficult at any price. However, guarantees are not without drawbacks and should not be used as a substitute for necessary reforms. Authorities should keep in mind that the first step in attracting domestic or foreign investment should be to improve the underlying economic environment. Perhaps the best general guidance concerning guarantees is that they should only be employed when there are clear advantages beyond merely enabling privatization to proceed. These might be additional investment or investors' acceptance of lower rates of return that result in tangible benefits to the public.

(d) IBRD/IDA Lending

IBRD and IDA can make loans (or “credits” in the case of IDA) to member countries, or to public or private entities located in those countries, provided IBRD or IDA receives a sovereign undertaking regarding repayment.21 In practice, however, IDA has only made loans to countries (and in a few cases to regional organizations).

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21 This may comprise a repayment obligation from the country to which the loan was made, or a guarantee from the country when loans are made to other entities for projects located in the country.
IBRD and IDA can use loans or credits to help in addressing non-commercial risks faced by private investors in infrastructure projects in a number of ways. Lending for technical assistance may help to improve the efficacy of legal and regulatory frameworks. Lending for structural adjustment may assist in mitigating broader economic or political risks. In some cases, it may also be appropriate for lending to support government equity participation in a public-private joint venture.\(^2\)

Lending instruments can also be used to support government guarantees of various kinds. The Songo Songo Project in Tanzania is an interesting example of a contingent loan aimed at mitigating convertibility risks (see Box 4.9). The Bank might also use contingent loans to support government payment obligations under take-or-pay contracts and the like.\(^3\)

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\(^{2}\) See discussion, ante.

\(^{3}\) Under a take-or-pay contract, the purchaser agrees to pay for the products or services actually delivered. Such a contract eliminates therefore the risk that demand for the products or services might be insufficient, but it does not guarantee the operation of the project. Under certain take-or-pay contracts, the products or services have to be paid for even if they have not been produced. Such a contract amounts to granting a full guarantee to the producer, generally for the benefits of its creditors. See Benoit (1996).
V. Availability of Local Finance

Investments in many infrastructure facilities are large, and require significant volumes of equity and debt capital. Reliance on foreign capital alone has a number of potential weaknesses, including greater exposure to exchange rate and convertibility risks and greater political sensitivity of foreigners dominating sectors that have been viewed as "strategic." At the same time, Africa’s local capital markets are typically very underdeveloped. This chapter assesses the current situation, explores the relationship between foreign and domestic financing and considers ways to increase the mobilization of local finance for infrastructure projects in Sub-Saharan Africa.

A. PRIVATE FOREIGN FINANCING: ROLE AND LIMITS

With the exception of South Africa and, to a lesser extent, Nigeria and Zimbabwe, domestic financial markets are underdeveloped in Sub-Saharan Africa. Reliance on foreign capital to finance a large part of private infrastructure projects is likely to remain a necessity for a number of years. However, while it constitutes a requirement and provides clear benefits, foreign, as compared to domestic, financing also has some disadvantages.

Private Foreign Financing: A Necessity in Sub-Saharan Africa

With very few exceptions, virtually all developing countries which have successfully attracted private financing for infrastructure have relied heavily on foreign sources of debt and equity — at least initially. The exceptions have been those countries with already relatively well-developed securities markets and long-term savings institutions: Chile, Malaysia, and Thailand. But even in these countries some infrastructure firms have tapped international debt and equity markets.

In fact, the sheer size of the investments required in infrastructure and the severe constraints faced both by national budgets and by public international donor or lending institutions make it imperative for African countries to gain access to private capital. Out of the 106 private infrastructure projects in 36 developing countries which the International Finance Corporation had helped finance up to June 1995, on average 65 percent of the financing was provided by foreign sources. In countries where several private infrastructure projects had been financed, there was some evidence of increasing local financing: for example, the third independent power project which IFC helped finance in the Philippines mobilized some debt from local commercial banks.

This pattern of heavy initial reliance on foreign financing is not surprising. Underdeveloped financial markets in many developing countries are unable to supply the large volumes of long-term financing often required by private infrastructure projects. Even if there are some long-term savings available in the local market, the institutions holding them

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1 This sample is obviously biased since IFC's presence alone means that all of the projects have some foreign financing. Nevertheless, cursory examination of other private infrastructure projects in developing countries confirms that foreign financing is important.
are unlikely to be familiar with assessing infrastructure projects, and exposure guidelines will limit the appetite of each institution for infrastructure financing.

In contrast, if a private infrastructure project is "bankable" — that is, well structured at the project level and located in a credible country environment — foreign financiers can mobilize large volumes of both debt and equity relatively quickly, and (for debt) with long enough terms to make financing feasible. Often, foreign project sponsors are already familiar with particular foreign financiers and help attract them to a project.

As a general rule, foreign investors in most developing countries look for high rates of return on their capital, usually in the range of 20-30 percent. This may mean that governments, at least initially, will need to offer attractive deals to lure foreign investment. Such decisions are politically difficult and come at a cost, but the costs imposed by poor infrastructure in Africa are generally much higher. In the long term, such deals contribute to reducing country risk and investor discount rates.

Limits to Foreign Financing

While foreign capital has a number of potential advantages — including stimulating flows of foreign direct investment — it also has two main potential downsides.

1. Convertibility, Transfer, and Exchange Rate Risks

As discussed in Chapter IV, many infrastructure projects derive revenues denominated only in local currency. Where obligations to suppliers or debt and equity providers are denominated in foreign currency, the potential mismatch exposes the project to convertibility, transfer, and exchange rate risks. While convertibility and transfer risks are usually treated as a form of non-commercial risk, the status of exchange rate risks is often more ambiguous (see Box 5.1). Reliance on local debt and equity capital reduces exposure to risks of these kinds, which should in turn reduce the cost of the project.

Box 5.1: Exchange Rate Risks in Sub-Saharan Africa

While revenues from many infrastructure projects are denominated in local currencies, obligations to suppliers, and providers of debt and equity capital will often be denominated in foreign currency. The potential mismatch raises convertibility, transfer, and exchange rate risks.

Within Africa, the fixed relationship between the CFA and French Francs reduces the scope of these risks for foreign investors in CFA countries. These risks are not eliminated, however, as illustrated by the devaluation of the CFA Franc in January 1994. For other countries in Sub-Saharan Africa, the risks can be more pronounced.

Options for dealing with convertibility and transfer risk were discussed in Chapter IV. Exchange rate risk can be dealt with in a number of ways, including shifting the risk onto consumers by denominating tariffs in foreign currency or indexing tariff adjustments to exchange rate movements. Although indexation approaches of this kind will often be demanded by private investors, they have their limitations and weaknesses. Enforcement of such provisions will often be politically difficult when exchange rate movements are substantial; in a sense, they are of least value when they are needed most. Moreover, adopting this approach is equivalent to placing part of the economy on a fixed exchange rate regime, which can undermine the flexibility of macroeconomic adjustment.

2. Political Acceptability and Government Commitment

As discussed in Chapter IV, it may be politically unpalatable for providers of infrastructure services to be wholly foreign-owned. Involving local investors in infrastructure privatiza-
Chapter V: Availability of Local Finance

tion — whether as holders of equity or debt — can thus help reduce the political sensitivity of privatization. Involving a broad range of local participants in infrastructure privatization can also help to anchor the government’s commitment to its regulatory undertakings, since it is less likely to renege on commitments if significant local interests are also affected.

B. ACCESSING LOCAL CAPITAL IN AFRICA

Even if local capital is relatively scarce in Sub-Saharan Africa, there is considerable unexploited potential for mobilizing the available capital for infrastructure projects. However, certain essential preconditions have to be met — in terms of macroeconomic stability and minimum efficiency of financial intermediaries — before significant progress can be expected. In addition, developing stock markets, establishing institutional investors, such as insurance companies, and introducing measures aimed at attracting the return of flight capital can also contribute to mobilizing local resources. Infrastructure privatization projects themselves not only benefit from domestic resource mobilization, but also facilitate such mobilization by providing attractive investment opportunities. Such measures would undoubtedly contribute to the emergence of new private infrastructure projects. In addition, they could also help local entrepreneurs currently providing small-scale, informal, infrastructure services make the transition toward formal and larger projects.

Essential Preconditions

In order to be able to successfully mobilize local capital for private infrastructure projects in Africa, progress on several fronts is crucial:

1. Reduced Political Uncertainty

High political and economic uncertainty, coupled with suffocating government ownership and regulation of financial institutions (including negative real interest rates), has discouraged firms and households from holding financial assets. Savings rates in Sub-Saharan Africa have been low on average (see Box 5.2), and savers have tended to prefer to hold tangible assets, such as cattle, land, and jewelry. More sophisticated savers have moved their financial assets abroad.²

² See section on flight capital below.
2. **Fiscal Discipline**

An already low rate of private domestic saving via financial assets is compounded by significant government deficits in many countries. A significant share of these fiscal deficits is caused by transfers to large, loss-making infrastructure utilities. On average, state-owned enterprises in Sub-Saharan Africa had annual deficits equivalent to 3 percent of GDP between 1978 and 1991.  

3. **More Efficient Financial Intermediation**

Distortion caused by government ownership and interference, low levels of competition, and poor regulation have all led to inefficient intermediation by the financial systems of many Sub-Saharan African countries. Credit has often been allocated on the basis of political influence, rather than to the borrower offering the best returns.

4. **Better Information**

Although many African countries have improved their macroeconomic environments, liberalized their financial markets, and strengthened regulatory oversight in recent years, remaining weaknesses in “information infrastructure” make it difficult for financial institutions to assess risks. Examples include inadequate accounting rules, unclear legal frameworks, and the absence of credit rating agencies.

**Different Sources of Local Financing in Sub-Saharan Africa**

There are three broad sources of local financing for infrastructure projects:

1. **Internal Cash Generation**

In Sub-Saharan Africa, where outside sources of financing are scarce, internal cash generation will constitute an important source of funds for private infrastructure projects. In sectors such as cellular telecoms, where revenues start flowing early, it may be possible for internal cash generation to contribute signifi-

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Box 5.2: Domestic Saving in Africa

At less than 9 percent of GDP for the period 1987-1991, excluding South Africa, saving in Sub-Saharan Africa is undoubtedly low on average. Saving rates vary widely across the continent, however, ranging from 36.3 percent and 23.1 percent in the oil-rich countries of Gabon and Congo to -15.7 percent in Chad. In fact, several operations have demonstrated that it is possible to successfully tap local markets to finance infrastructure projects. The sale of SODECI and CIE shares on the Abidjan stock market has already been mentioned. Bond issues of CFAF 3 billion and CFAF 5 billion have been successfully completed by the Banque Ouest Africaine de Développement in 1993 and 1995 respectively. Even in Chad, local financing has been successfully mobilized in some instances: when the public works company was privatized in 1993, the equity of CFAF 200 million was fully subscribed, including 47 percent to individual private Chadians and 10 percent by a private commercial bank.

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Box 5.3: Internal Cash Generation — A Cellular Network

In 1989 the Government of Zaire awarded Telecel a concession to develop a cellular telephone network. In 1991 the company developed a US$19.3 million plan to expand the network from 2,000 to 7,000 subscribers. It was expected that US$5.3 million of this would come from internal cash generation. However, revenue growth was faster than expected, and the company raised an additional US$5.2 million from internal cash generation.

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cantly to financing a new infrastructure enterprise (see Box 5.3). In other sectors, retained earnings will be used to pay for operation and maintenance, to cover debt service obligations, and to finance replacements and possible extensions.

2. Mobilizing Local Equity

Local equity may be sourced from publicly traded stock markets or from private sources (venture capital or private equity funds, or the sale of private stakes to local investors). Three options for developing equity markets are considered below.

(a) Developing Local Stock Markets

While starting from a very low base, stock markets in Africa have been developing extremely rapidly in the last five years. The capitalization and turnover of every African market increased sharply between 1992 and 1994 (see Table 5.1). The trend continued in many markets and two additional countries — Tanzania, Uganda — are currently establishing their markets. For example, in South Africa, where advanced computerized trading systems were recently introduced, the market’s capitalization had increased to US$281 billion by December 1995, and turnover in 1995 rose to over US$17 billion. Some have forecast that Sub-Saharan markets could expand by a factor of five to six by 2010.7

| Table 5.1: Stock Markets in Sub-Saharan Africa, 1992-1994 |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|
| Botswana          | 295                      | 15                        | 377                        | 31                          |
| Côte d’Ivoire     | 336                      | 4                         | 428                        | 12                          |
| Ghana             | 84                       | 0                         | 1,873                      | 75                          |
| Kenya             | 607                      | 12                        | 3,081                      | 62                          |
| Mauritius         | 416                      | 10                        | 1,514                      | 85                          |
| Namibia           | 326                      | 0                         | 9,574                      | 18                          |
| Nigeria           | 1,221                    | 14                        | 2,711                      | 18                          |
| South Africa      | 103,537                  | 7,767                     | 225,718                    | 15,954                      |
| Swaziland         | 111                      | 0                         | 338                        | 2                           |
| Zimbabwe          | 628                      | 20                        | 1,828                      | 176                         |
| Total             | 107,561                  | 7,842                     | 247,442                    | 16,433                      |

Source: IFC Emerging Market Database.

One reason for these encouraging developments is the partial liberalization of rules which previously prohibited foreign portfolio investment. The entry of foreign portfolio investors into a stock market almost always leads to a rapid broadening and deepening of the market, partly because of the extra liquidity brought by the foreign investors, and partly because foreign fund managers demand international standards of custody, swift clearing and settlement, good information and accounting disclosure, multiple brokers, efficient transfer agents, and so forth. These institutional improvements benefit all participants in the market (see Box 5.4).

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6 For example, in March 1996 Swaziland had only four companies listed.
7 Financial Times (1994).
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Box 5.4: How a Portfolio Fund Stimulated a Stock Market — Mauritius

In the early 1990s the Mauritius government took steps to level the playing field between bank deposits and securities. The minimum deposit interest rate was removed, making bank deposits in effect less attractive. In addition, companies were given tax concessions for an initial two-year period if they would list. In 1992, the government decided to allow foreign investors to invest in the market through a single portfolio fund that would be the exclusive vehicle for foreign investment for one year. In January 1993, the London-listed Mauritius Fund closed at US$17 million.

The Fund's impact on the market has been dramatic. The size, liquidity and breadth of the market has increased sharply in the two years since the Fund was launched. The eightfold increase in turnover is particularly noteworthy. The increase in the P/E ratio from 11.6 to 18.4 over the two years means that the cost of equity capital to Mauritian firms fell from about 9 percent to just over 5 percent. Almost all of the new investment was by local investors but added confidence was given by the entrance of foreign funds.

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<tr>
<td>No. of listed companies</td>
<td>22</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td>Market capitalization (millions US$)</td>
<td>416</td>
<td>791</td>
<td>1,514</td>
</tr>
<tr>
<td>Turnover (millions US$)</td>
<td>10</td>
<td>39</td>
<td>85</td>
</tr>
<tr>
<td>Market index</td>
<td>183</td>
<td>303</td>
<td>474</td>
</tr>
<tr>
<td>Price-to-earnings ratio</td>
<td>11.6</td>
<td>12.8</td>
<td>18.4</td>
</tr>
</tbody>
</table>

The market's growth has also been stimulated by the government's privatization program, including some infrastructure-related companies. In December 1994, for example, a 20 percent share in Air Mauritius was floated on the market in a public offering.

Another factor in the development of stock markets is the acceleration in privatization programs. For example, Ghana's stock market was given a major boost by the flotation of shares in a major gold mining company. Relatively few of these privatizations have been infrastructure-related to date, although several countries are currently examining options for floating shares of infrastructure utilities on local markets.

Foreign portfolio investors have invested in infrastructure firms where these are available; the relatively large size and high profile of the enterprises usually means that their shares are more liquid, and thus attractive to investors. For example, the first foreign portfolio fund targeted at African markets, the Africa Emerging Markets Fund (launched with US$30 million in 1993) has invested in an electricity distribution company in Kenya, Air Mauritius, and two companies with interests in developing the port in Mauritius.

As stock markets develop, the number and variety of local participants increase. Several African markets are seeing the emergence of local mutual funds, which mobilize funds from retail investors for investment on the stock market. One such fund is a unit trust being set up in Kenya. Box 5.5 describes recent developments in Zimbabwe.

Box 5.5: Zimbabwe — Opening Up to Local Households

In April 1993, Zimbabwe changed its securities and foreign investment regime, leading to a flood of foreign portfolio investment between June and December of that year. Beginning in 1993 a small fund manager, Ketay, began to set up a series of unit trusts. While these were small they provided a base for the development of proper unit trusts in a reasonable legal framework. The authorities worked with IFC between 1994 and 1995 to develop unit trust regulation. Now the unit trust law has been drafted and is being debated in parliament. With the institution of this vehicle, household participation is expected to rise and the government can use this vehicle to make privatization more politically palatable. Now, small household investors can participate in the sell-off of government assets. This will avoid the usual charge that the government is selling the "crown jewels" to big corporations, foreigners or political friends.
The recent privatization of Kenya Airways illustrates how governments can combine sale to a strategic partner (thus obtaining access to management expertise and new capital) with flotation on the domestic market (see Box 5.6).

If the development of African stock markets is to proceed, however, the reforms which have been undertaken will have to be pursued. For example, currency controls which are still in place in many African countries need to be removed to allow cross-border flows of capital and to facilitate the establishment of linkages with other stock markets in Africa. More privatization issues must be organized, and regulations limiting the choice of investments by domestic institutional investors should be relaxed. Capacity-building for the stock exchange personnel and the setting up of an adequate framework for supervising and regulating the securities market are also essential.

(b) Attracting Private Equity Funds

A significant source of private equity for infrastructure projects has been private equity funds, whether dedicated to infrastructure or not. Private equity funds enable investors to spread risks among different investments, and to devolve appraisal, management and di-

Box 5.6: Privatization of Kenya Airways

Following intensive restructuring of its national airline, the Government of Kenya sought a foreign strategic partner to participate in the privatization of Kenya Airways. The debt-saddled enterprise was overhauled in the early 1990's when the government replaced the entire board and gave it a mandate to prepare the airline for privatization. The operations, management and labor force were restructured over a period of three years and a divestiture policy that would cement these changes through privatization was identified. Finally, in January 1996, a 26 percent strategic stake was sold to the Royal Dutch Airline, KLM.

The government wished to achieve a politically acceptable ownership distribution, balancing the benefits of a foreign strategic partner against the desire to maintain local majority ownership. Indeed, this was a business imperative as well: negotiated bilateral route rights depend upon the airline's being substantially owned by Kenyans. In addition to the 26 percent stake taken by KLM, shares were also listed on the London and Nairobi stock exchanges, with both offerings oversubscribed. Kenyan institutions and individuals acquired 34 percent of the shares and international investors 14 percent. Airline employees enrolled in a special program to purchase 3 percent, and the government of Kenya retained 23 percent. As many as 110,000 different shareholders participated in the domestic offering, which was the largest ever on the Nairobi Stock Exchange.

investment decisions to professional fund managers. Until very recently, such funds had attracted very little capital from African investors and tended to shun African infrastructure projects.

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8 See section (c) below.
Privatizing Africa's Infrastructure

However, changes in perceptions and policies have now become evident in Africa. The South Africa Infrastructure Fund was launched in May 1996 to take advantage of investment opportunities in the infrastructure sectors of South Africa. It primarily targets domestic investors, especially institutional investors with medium to long-term potential. Private equity funds are also being marketed to potential investors in West Africa (the CFA zone countries) and Zimbabwe/Zambia. Although the bulk of the investors are expected to be foreign, some of the monies may be mobilized from local investors. The prospectus for the fund targeting the CFA zone mentions the accelerated privatization program (including infrastructure enterprises) in Côte d’Ivoire as a major investment opportunity.

As with portfolio investment funds, it is expected that the presence of private equity funds in a region will contribute to improving accounting standards, respect of shareholders' right, etc. — which would in turn facilitate the participation of domestic investors in the market.

(c) Promoting the Establishment of Private Pension Funds and Other Institutional Investors

Greenfield infrastructure projects are typically long-term, with an initial construction period during which no revenues are collected, followed by an operating phase during which revenues start accruing (sometimes slowly at first and more rapidly afterwards as is the case for toll roads, for example, where traffic flows tend to grow progressively during the first few years of operation). While they may not generate revenues immediately, such projects generally offer the prospect of relatively stable returns in the long run, since most infrastructure services face little market risk.

Box 5.7: Infrastructure Investment Funds — Is Africa Ready?

Over the past few years, several new private investment funds have been set up specifically to channel equity and mezzanine finance to infrastructure projects in developing countries. The Emerging Markets Infrastructure Fund and the Asian Infrastructure Fund, a US$500 million closed-end fund with IFC participation, provide examples. These and other funds have been established to invest in a broad range of infrastructure projects. Still others, such as the Global Power Fund co-founded by IFC to participate in power projects, focus on a single sector. Recently, a US$125 million fund — the South Africa Infrastructure Fund, sponsored by Standard Corporate and Merchant Bank — has been set up to invest in infrastructure projects in South Africa.

These funds allow investors who would not invest in individual projects because of the risks involved to diversify their portfolio of infrastructure firms and projects. A fund can also provide for some mitigation of construction risks if it pools projects which are already operating with some that have yet to be constructed.

Several conditions should be satisfied before launching an infrastructure investment fund. First, a sufficient number of projects must have been identified or be “in the pipeline” for the next two to three years in order to justify incurring the transaction costs of establishing a fund. Second, given the administrative complexity involved in shepherding projects through the construction phase and the reluctance of most institutional investors to assume construction risks, some projects in which a fund participates must already be generating cash flow. And third, very few investors will be willing to invest in markets with no track-record of private participation in infrastructure. Currently, with the exception of South Africa, no country or group of countries in Sub-Saharan Africa appears to meet the conditions which would justify setting up a special infrastructure investment fund for Africa.

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9 This advantage is sometimes overstated, however. The number of projects in which a given fund can invest remains typically limited. In fact, rating agencies tend to assign to a fund a credit rating equal to that of the weakest project.

10 Rating agencies have informally stated that a fund would not get an investment grade rating unless 35 to 40 percent of the projects were already past commercial operation.
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This return profile — long-term, relatively stable and secure — is well suited to “patient” sources of capital, e.g., pension funds and other institutional investors, such as insurance companies. This is especially true if pension funds lack, at least initially, the ability to oversee and trade large numbers of securities: concentrating their holdings in low-risk shares can help. In turn, institutional investors facilitate private infrastructure projects by channeling local funds into such projects. Pension funds’ ownership in infrastructure projects would have an additional advantage: by broadening local participation, it creates a stronger constituency for sound sector policies, thus reducing the likelihood of government reneging on its regulatory commitments.

Allowing pension funds to invest in securities issued by private utilities would therefore facilitate the financing of private infrastructure projects while providing the funds with attractive investment opportunities. Experience demonstrates that privately managed and competitive funds are usually in a much better position to take advantage of those opportunities than publicly-managed funds. The latter are often subject to political pressure to invest unproductively, especially when governments run high fiscal deficits which lead them to forcibly mobilize domestic financial savings. For example, “prescribed” investments in South Africa earned negative real returns of 3.6 percent and 0.9 percent in the 1970s and 1980s respectively, while the real return on equity was strongly positive. Privately managed, competitive funds, by contrast, face market pressure to operate efficiently and are at least partly insulated from political pressure to misallocate capital.\(^\text{11}\)

Private pension funds exist in Zambia, for example, but remain rare in Africa. An intermediate step, which would also facilitate infrastructure privatization, would be to allow public pension funds to invest in securities issued by private infrastructure projects.

3. Mobilizing Local Debt

Debt may be sourced from local commercial banks or, in more sophisticated markets, through local bond issues. But, mobilizing debt for private infrastructure projects in Africa will be challenging, since it requires governments to create an environment with low levels of uncertainty. In most Sub-Saharan African countries, there is no medium-term or long-term debt, no benchmark prices for term debt, and limited skills or experience in debt financing.

The reason is that lenders simply cannot afford to take equity-type risks without equity-type rewards. The potential returns of debt holders are limited to a pre-specified rate of interest and the risk they bear is also limited since the revenues generated by the project or company are allocated first to remunerate debt. Equity holders, on the other hand, are remunerated after debt holders, but their potential returns are unlimited. High and unpredictable rates of inflation in particular reduce drastically the length of available loans, while equity, for its part, is in a better position to take inflation risk since the cash flow of the projects should normally be sensitive to the general price.

In those conditions, subsidizing debt through concessional loans or through guarantees is not the solution. African governments have no choice but to continue instead with macro-

\(^{11}\) See World Bank (1994d).
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economic reforms that will improve the stability of the environment sufficiently to convince private lenders that they should consider lending to infrastructure projects in the country. Financial liberalization measures will also have to be introduced. Such measures might include: privatizing state-owned commercial banks; encouraging the entry of new adequately-capitalized banks; leveling the playing field between state-owned development banks and private banks; strengthening bank supervision; removing interest rate controls; liberalizing investment rules for life insurance companies and pension funds; and introducing benchmark pricing instruments.

In addition, countries should eliminate the distortions which affect the cost of debt finance. A recent study argues that in many emerging economies, governments have favored equity over debt finance, for example, through the imposition of ceilings on debt to equity ratios or through fiscal incentives. Artificially pushing firms toward one form of financing is likely to lead to sub-optimal solutions. Other structural problems, such as inadequate bankruptcy procedures, should also be addressed to increase the probability that lenders get at least some money back if borrowers fail.

The establishment of leasing companies could also facilitate private participation in small-scale infrastructure projects. A significant share of the portfolio of a leasing company in Malawi is devoted to financing a local bus company. In 1994, a Ghanaian leasing company issued well over 100 leases worth about US$12 million; nearly 40 percent of its portfolio was accounted for by mobile assets, including trucks, cars, and buses. In Botswana, about 20 percent of the portfolio of a leasing company is in the transport, communications, electricity, and water sectors.

The main advantage leasing companies offer private infrastructure projects is their ability to enable small and medium-sized providers of infrastructure services to have access to formal financial markets. In African countries, leasing may be the only form of medium-term to long-term finance available for purchasing equipment. In addition, the lessor draws comfort from the fact that he remains the owner of the asset during the lease term. Security arrangements are therefore often simpler (for example, requirements for historical balance sheets or for the provision of outside security are less strict) since repossession is possible in case of default.

Leasing companies might also be instrumental in transferring funds from some of the institutional investors already mentioned, such as insurance companies and pension funds, to private providers of infrastructure services. In Côte d'Ivoire, for example, insurance companies have recently been allowed to invest in IFC-guaranteed bonds issued by leasing companies.

13 For a detailed analysis of leasing, see Kuczynski, Barger and Carter (1995).
14 The leases most likely to be used to finance infrastructure equipment falls under the category of "financial leases," whereby the lessor buys the equipment chosen by the lessee. This equipment is then used by the lessee for a significant part of its useful life. Lease payments during the lease term usually amortize the lessor's costs and provide some profit. The lessee bears the risk of obsolescence and the cost of maintaining and insuring the asset. Typically, the lessee has the right to buy the asset at the end of the lease contract for a nominal fee.
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Using Infrastructure Privatization to Develop Local Capital Markets

As discussed in Chapter I, there are potentially important linkages between infrastructure privatization and the development of local capital markets: while local resources mobilization greatly facilitates infrastructure privatization, the latter can also, in turn, enhance the development of local capital markets.

The stable cash flows associated with infrastructure utilities attract investors, and particularly those with long time horizons, such as pension funds and life insurance companies. Local banks may also be willing to stretch maturities on loans to such companies. Private infrastructure companies may be able to stimulate the development of local capital markets by issuing bonds. Floating parts of infrastructure utilities onto local stock exchanges also enables them to become significantly more liquid, and attracts more participants. Moreover, analyzing the complex risks posed by financing infrastructure projects helps develop the relevant skills among local banks, auditors, lawyers, and other participants in the process.

The experience of Chile demonstrates the positive impact which infrastructure privatization can have on the development of capital market (see Box 5.8).

### Box 5.8: Infrastructure Privatization and Capital Market Development

Most divestitures of companies operating in the electricity, telecommunications, and air transport sector in Chile involved substantial sales of shares to employees and to privatized pension funds. Workers were offered the option of using an advance on their severance payment to acquire those shares, often in combination with other benefits. Pension funds were gradually allowed by their supervising authorities to purchase shares of privatized utilities as long as those shares fulfilled certain legal requirements. The following table demonstrates how the financing of private infrastructure and the development of local capital markets occurred in parallel in Chile.

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<tr>
<td>Stock market capitalization (millions US$)</td>
<td>9,587</td>
<td>13,545</td>
<td>27,984</td>
<td>29,644</td>
<td>44,622</td>
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<td>Infrastructure stocks as a percentage of total capitalization (%)</td>
<td>30</td>
<td>35</td>
<td>49</td>
<td>51</td>
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In addition, a credible policy of infrastructure privatization, coupled with sound macroeconomic policies, presents opportunities to lure back flight capital and thus contributes to the pool of local financial resources. Recent studies have underscored the significance of flight capital — defined as non-labor productive resources from poor countries held in rich countries.\(^{16}\) Flight capital is particularly important in Sub-Saharan Africa, where the ratio of flight capital stock to GDP has been estimated to be 85 percent in 1991, substantially higher than in Europe and Central Asia (40 percent), Latin America and the Caribbean (35 percent), and South East Asia (15 percent), with only North Africa and the Middle East having a higher ratio (118 percent).\(^{17}\)

The strong links between infrastructure privatization and the repatriation of flight capital have been demonstrated in several Latin American countries (see Figure 5.1). Most observers believe that in Latin America, repatriated flight capital was the first form of capital to be invested in private infrastructure projects. Foreign investors followed and, finally, savings were mobilized locally. A similar strategy could hold promise for many African countries.

\(^{16}\) Cited in Kant (1995).

\(^{17}\) See Kant (1995), and Claessens and Naudé (1993).
VI. Elements of a Strategy for the World Bank Group

The preceding chapters have shown that infrastructure privatization holds great promise for Sub-Saharan Africa, yet faces a number of specific challenges. The World Bank Group is working on a number of fronts to assist in meeting those challenges, but there is room for further and more intensive efforts. This chapter briefly reviews current Bank Group efforts in this area before considering possible elements of a broader and more intensive World Bank Group strategy to facilitate infrastructure privatization in Sub-Saharan Africa.

A. CURRENT BANK GROUP EFFORTS

The World Bank Group is already providing active support to infrastructure privatization throughout Sub-Saharan Africa. As indicated in Annex E, most World Bank projects have been in the potentially competitive areas of road maintenance and transport. In transport vehicles, where expropriation is less of a threat than in fixed infrastructure, private participation and competition are being brought in through divestiture and liquidation programs. Similarly, in telecommunications, where sunk costs are relatively small and revenues can be obtained in hard currency, more advanced forms of privatization are succeeding.

Sectors such as power and water are typically more challenging, as conditions of natural monopoly place larger demands on regulatory frameworks, tariffs are often more “political” and usually denominated in local currency, and the sunk nature of investments makes private investors more vulnerable to non-commercial risks. Most of the Bank projects in these sectors are being carried out under management or lease contracts rather than more substantial forms of privatization.

B. POSSIBLE FUTURE MEASURES AND INITIATIVES

Possible future actions that the World Bank Group might undertake to strengthen and intensify support for infrastructure privatization in Africa are outlined below.

Promoting Understanding of the Potential for, and Demands of, Successful Infrastructure Privatization

Given the breadth of its experience and the level of contacts which it maintains with its client countries, the World Bank Group is in a unique position to engage political authorities on the issues associated with infrastructure privatization, and to encourage potential private investors to give greater priority to opportunities in Sub-Saharan Africa.

The Bank Group has several established means of conducting such a dialogue with governments, including within the context of Country Assistance Strategies, Economic and Sector Work and specific lending and other operations. In many cases, more attention could be
privatization and related reform issues through these vehicles. A rigorous cross-sectoral assessment of the issues and options in a particular country could provide a useful analytical underpinning to this dialogue, and assist in shaping country-specific strategies.  

In addition, there are opportunities to promote a broader dialogue on issues through international seminars, conferences, study tours and the like. These may involve exposure to the growing body of international experience in infrastructure privatization and to potential private investors, so that the practical requirements of an effective privatization strategy can be understood. Initiatives of this kind can be organized with a sector-specific or broader focus, and might be targeted to individual countries or a group of regional countries.  

**Box 6.1: Petroleum Exploration Promotion Projects — Lessons Learned**

Since 1980, the Bank has supported petroleum exploration promotion projects in about 40 countries, mostly in Sub-Saharan Africa. These projects seek to develop indigenous energy resources by encouraging foreign investment in exploration and production. To stimulate investor interest, the projects involve: (i) analysis of the legal and contractual framework (inter alia, the existing mining code, contract law and dispute settlement mechanisms) and formulation of policy recommendations; (ii) compilation and interpretation of geological, geophysical and other data, to be sold to interested companies; (iii) training and institution-building programs to increase the government's capacity to interface with international investors; and (iv) organization of promotional seminars in a specific country or in international oil industry centers.

The main lessons from this experience potentially applicable to similar efforts in infrastructure are:

- It is essential to address investors' legal, political and economic risk concerns early on by providing assistance in the drafting of an adequate legal and regulatory framework. Also, information on legal and regulatory reforms carried out should be disseminated as soon and as widely as possible.
- Private investors should be allowed to indicate what are their information requirements. For example, while processing existing data to provide information to the companies proved useful, additional data gathering was seldom cost-effective. Indeed, companies will generally not rely on data provided by outside sources and will carry out their own fact-finding. Similarly, construction by the government of storage areas, office space, etc., is rarely effective in practice and should be left to the companies, who are better able to identify and meet their own needs.
- Training public officials to negotiate more effectively with private investors serves not only the interests of the government, but also those of the companies, who now realize that it is easier to negotiate and reach agreement with competent counterparts.
- Promotional activities are important and should be tailored to each specific case. For countries already "on the map" of potential investors, large promotional seminars where all main players are invited might be the best solution. On the other hand, when country and project information is sparse and risks are perceived as high, it might be worth contacting and informing companies individually.

Efforts of these kinds can usefully be complemented by promotional activities aimed at the private investor community. In this regard, many of the lessons learned from the Bank's promotional activities in the petroleum exploration area can easily be translated to the private infrastructure arena (see Box 6.1). In the case of legal and regulatory frameworks, initiatives such as the development of cross-sectoral concession laws or related instruments could themselves form part of the promotional strategy.  

As discussed in Chapter 1, infrastructure privatization comprises a spectrum of options, ranging from mere management contracts through to the divestiture of existing infrastruc-

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1 For example, the Bank has recently undertaken cross-sectoral assessments of this kind in countries including Hungary, Morocco, and Yemen.


3 For example, a FIAS regional roundtable on "Policy Aspects of Promoting and Implementing Foreign Direct Investment" was held in Uganda in March 1996.

4 See Box 3.2.
Chapter VI: Strategy for the World Bank Group

The deeper the form of private sector participation, the greater the potential advantages.

While management contracts and leases are to be preferred over continued state monopoly over all aspects of infrastructure operation, experience highlights their weaknesses relative to more substantial forms of privatization, not only in securing private capital, but also in eliciting commitment to sound sector policies. For these reasons, the Bank should give emphasis to more substantial forms of privatization, and advocate more partial efforts only when other options are infeasible in the foreseeable future.

Where concessions or ownership transfers infeasible, the Bank should give priority to the more "ambitious" types of lease contracts. These would guarantee financial self-sufficiency of the sector, impose debt service coverage obligations to the lessee, and ensure coordination between investments and operational needs. They would also provide for effective monitoring of the lessee, particularly if the latter is allowed to carry out construction activities as a contractor.

**Dealing with Concerns over Market Size, Affordability and Payment Risks**

As discussed in Chapter II, one of the challenges to attracting effective private participation in Sub-Saharan Africa is the set of concerns relating to market size, affordability, and payment risks. In essence, the potential rewards need to be commensurate with the perceived risks.

The most important step the Bank could take in this area is to ensure that its lending program supports rather than displaces private investment opportunities. This may require restraint in traditional investment lending and a stronger focus on lending that facilitates or catalyzes private sector participation. Examples might include technical assistance for legal and regulatory reforms, financing of transitional subsidy schemes (see below), and adjustment support associated with privatization. The Bank is well-placed to show leadership in this area and to encourage other donors to adopt complementary policies.

Regional integration initiatives and liberalization of cross-border trade in infrastructure services offer the promise of improving efficiency and expanding opportunities for private infrastructure projects. To date, however, progress has been disappointing, and with a few exceptions cross-border infrastructure projects have been difficult to implement. Such projects would undoubtedly be easier to establish with freer regional trade in goods and services, and trade liberalization should clearly remain a priority objective for the Bank. Trade liberalization would also help to facilitate and formalize the activities of numerous small-scale, cross-border providers of infrastructure services.

The Bank is also well positioned to address affordability concerns, in part through schemes providing performance-based fiscal awards. Under such schemes, donor institutions would commit to pay the provider of infrastructure services an amount proportional to the quantity of service actually delivered (number of kWh, cubic meters of drinking water, etc.). This would provide incentives for the timely construction of operational systems while increasing the range of projects attractive to private operators. To promote adequate quality standards and high collection ratios, the fiscal awards could be paid only when the service is of suffi-
Privatizing Africa’s Infrastructure

cient quality and is actually paid for by the users. In that way, the government does not bear construction and operation risks as would be the case if it contributed equity or debt to the project. This policy would seem particularly appropriate to very poor countries where the economic benefits of a service exceed users’ capacity to pay, or where willingness to pay cost covering tariffs must be developed over a period of time through progressive tariff increases. A decreasing subsidy scheme, matching progressively increasing tariffs, has, in effect, been used in the Guinean water sector.\(^5\)

In many instances, even poor households are willing and able to pay for the variable costs of a basic public service, such as water or electricity, as well as for a fraction of the fixed costs associated with the setting up of the network. As mentioned in Chapter II, the problem for poor users is the high cost of individual connections to the network when credit constraints prevent users from spreading these costs over time. In these conditions, operations aimed at improving individual access to credit could dramatically increase the consumer base for infrastructure services. Donors could offer loans to service providers to enable them to pre-finance connections, while requiring that users progressively reimburse the cost of the connections through a component of their water or electricity bill.\(^6\)

The single most effective measure which can be adopted to tackle the risk of non-payment is probably to place all commercial risks on the private operator and to grant an unequivocal right to disconnect in case of non-payment. Technical assistance can also be provided to help implement schemes to improve the collection ratio from public users.

**Developing Legal and Regulatory Frameworks**

The Bank has wide experience in providing technical assistance to client countries on the design and implementation of legal and regulatory frameworks for infrastructure, and is usually well-placed to advise on emerging lessons from international experience.

Governments should be reminded that, in many cases, priority will need to be given to the rules governing entry conditions for private investment. While the clear message from international experience is to deregulate entry to the maximum extent possible, rules will often be required on the award of concessions or other contracts and related issues. Cross-sectoral concession laws or similar instruments of the kind noted above will often provide a convenient and effective instrument for implementing key reforms in this area.

Both the Bank and IFC have been active in advising on choices of market structure to be adopted in connection with privatization and, in particular, the balance between competition and monopoly. Once again, the clear lesson from international experience is to seek more rather than less competition wherever feasible, and this applies with special force in countries with under-developed markets and weak regulatory capacity. The priority should thus be on removing regulatory restrictions on competition. This applies not only to infrastructure services themselves but also to products and services that may provide a degree of

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\(^5\) See Box 1.7.

\(^6\) For example, in 1993, the European Investment Bank lent ECU 8 million to Guinea to finance 15,000 individual water connections. A contract between SONEG, the State holding company, and SEEG, the service provider, states that the users benefiting from those connections will pay for the cost of such connections through a down payment, covering about 20 percent of the cost, followed by a series of bimonthly payments.
Chapter VI: Strategy for the World Bank Group

substitute competition (e.g., trucking in competition with railways, oil and other energy sources in competition with electricity).

Rules governing market conduct, particularly price regulation, will require careful consideration. In all cases, the choice of approach must be tailored to the particular priorities and implementation conditions in Africa. This will usually suggest relatively little or light-handed economic regulation that is implemented through simple rules that operate as automatically as possible.

Creating autonomous regulatory agencies will not be the highest priority in many African countries. Nevertheless, this step is a potentially important part of a broader regulatory reform strategy. The Bank can draw on experience across sectors in advising governments on the considerable advantages, in many cases, of creating a single agency responsible for all infrastructure sectors rather than a proliferation of industry-specific agencies. There is also room to develop more innovative ways of contracting-out certain regulatory functions. Attention will need to be given to strategies for supporting the development of newly appointed regulators, where emerging international experience can offer some insights.

Last, but not least, priority should be given to ensuring that countries have implemented at least the basic elements of an effective dispute settlement mechanism that can apply to private infrastructure arrangements. In most cases this will require adherence to one or more of the international conventions governing international arbitration, a step still not taken by a handful of countries in Sub-Saharan Africa.

Dealing with Non-Commercial Risks

Chapter IV discussed a broad range of strategies that governments and investors may adopt to minimize or mitigate the non-commercial risks associated with private infrastructure projects. From the Bank Group’s perspective, the single most important contribution would be to encourage and assist governments to undertake the sectoral and broader reforms required to reduce or eliminate these risks.

A variety of strategies can be adopted to encourage governments to commit credibly to the required reforms. In some cases, broad and sweeping changes may be required to signal the governments’ commitment to reform. In other cases, smaller and well-targeted projects may be chosen to provide demonstration effects to governments, investors, and other stakeholders. As discussed in Chapter I, however, initial steps that involve mere management contracts or leases should be approached with care to ensure that the intended benefits are not outweighed by the possible delays and complications created in attracting more substantial private participation.

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7 See Box 3.3, which considers some of the options in this area.
8 See Box 3.6.
9 See Chapter III.
10 This approach has been adopted in Senegal, for example, where success in implementing a lease for a water system is prompting the government to consider further reforms.
Privatizing Africa’s Infrastructure

Finally, the World Bank Group has a variety of instruments at its disposal that can be used to help mitigate non-commercial risks. Loans or equity participation by IDA, IBRD or IFC, if targeted carefully, can act as catalysts in attracting private investment. Guarantees can be used, taking the form, *inter alia*, of partial risk guarantees, contingent loans (such as in the Songo Songo project),\(^{11}\) or put options.\(^{12}\)

A discussion of the pros and cons of guarantees was presented in Box 4.8. It is still too early to be able to conduct an empirical analysis on the effects of guarantees. The main rationale for granting a Bank guarantee is the fact that it can reinforce a government’s commitment to reform. Indeed, to maintain good relations with the World Bank Group, some governments might be ready to make extra efforts to fulfill their obligations vis à vis a private investor when such obligations are backed by a Bank guarantee. It is clear therefore that such a guarantee should not be issued when the government’s commitment to reform would in any case remain insufficient. A guarantee cannot be used as a substitute for commitment and necessary reforms.

Supporting the Development of Local Capital Markets

With respect to domestic capital mobilization, the clear priority for the Bank is to help its client countries in Sub-Saharan Africa tackle the combined problems of macroeconomic instability and malfunctioning financial systems. Without substantial progress on these fronts, the successful mobilization of local capital for private infrastructure projects will remain elusive.

In order to promote the development of local stock markets, the World Bank Group should continue to press for the acceleration of privatization programs and the removal of barriers to foreign portfolio investment, the two critical policies which have already spurred the growth of stock markets in Sub-Saharan Africa in recent years.\(^{13}\) In addition, it is essential to develop the legal and regulatory framework required to ensure investor protection and increase the efficiency with which the markets operate. For example, the IFC is currently promoting the establishment of a private stock exchange to replace the government-owned Abidjan Stock Exchange, which will be the common and only stock exchange for the seven member countries of the West Africa Monetary Union. IFC is also training the staff of the regional securities regulatory commission and it provides advice to the central bank on trading and settlement procedures for the new stock exchange.\(^{14}\)

The World Bank Group should also promote the liberalization of the investment regime imposed upon contractual savings institutions, such as pension funds and insurance companies, to enable them to purchase some of the securities issued by private infrastructure projects.\(^{15}\) The setting up of new institutions, such as leasing companies, could also facilitate the financing of small-scale projects.

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\(^{11}\) See Box 4.9.

\(^{12}\) On put options, see the section on IBRD/IDA guarantees in Chapter IV.

\(^{13}\) See the section “Developing Local Stock Markets” in Chapter V.


\(^{15}\) See the section “Promoting the Establishment of Private Pension Funds” in Chapter V.
Attracting large amounts of private debt for private infrastructure projects in most countries in Sub-Saharan Africa will probably remain unachievable for several years. For the foreseeable future, the bulk of private financing for infrastructure projects is likely to come in the forms of retained earnings and equity participation. Again, the focus should be on getting the fundamentals right rather than on schemes to subsidize debt.

There seems to be scope for the IBRD and the IFC to forge even more effective cooperation in the area of capital market development.

Creating — and Duplicating — Success Stories

The most persuasive argument in favor of enhanced private participation in infrastructure is usually the example of successful projects on the ground. Successful private infrastructure projects in Sub-Saharan Africa demonstrate that such schemes can be implemented in the region, show how they can be carried out in an African context, and reveal the efficiency and other benefits that can be reaped.

Such projects already exist in Sub-Saharan Africa. The concentration of private infrastructure projects is growing in West Africa: after Côte d'Ivoire and Guinea, Ghana and Senegal have completed private infrastructure projects and an ambitious program of infrastructure privatization is now under way in Congo. South Africa could soon constitute a second pole of private infrastructure activity (see Box 6.2). In both cases, local expertise has developed and is being exported to other African countries.

The World Bank Group can build on these successes, and encourage their proliferation, by leveraging their demonstration effects in other countries and sectors. African experts — who might benefit from added credibility in the region — should be asked to contribute to seminars, workshops, study tours, training sessions, etc., in order to disseminate their experience in other African countries.
To accelerate the development of a pipeline of success stories, the World Bank Group should marshall the combined resources of each of its constituent agencies — including IBRD, IDA, IFC, MIGA and FIAS — to focus efforts on a select number of promising potential private infrastructure projects in the region. The main instruments which the World Bank Group can use to support such projects and the circumstances in which the use of those instruments would seem most appropriate are summarized in Box 6.3.

**Box 6.3: Illustrations of Possible Bank Group Support to Promising Private Infrastructure Projects**

- **Economic and sector work.** Analytical work could be undertaken to identify promising projects and reform issues that warrant priority attention. In many cases there may be advantages in undertaking this work on a cross-sectoral basis in one country or in neighboring groups of countries.

- **Technical assistance.** This is an essential component of any infrastructure privatization effort, even in the most advanced countries. Technical assistance is required, *inter alia*, to elaborate an overall reform strategy; to support necessary legal, regulatory, and institutional reforms; to advise during the negotiation of specific transactions; and to help with implementation efforts. As a sub-set of technical assistance, IFC provides advisory services to governments on specific transactions, while FIAS advises on the promotion of private investment.

- **Adjustment operations.** These instruments can be used to support adjustment associated with privatization. They may be particularly suited to address some of the structural imbalances commonly found in countries which have relied heavily on public monopolies in the utility sector to pursue a variety of non-economic objectives. Adjustment operations can be used, for instance, to support transitional subsidy schemes when below-cost tariffs can only be increased progressively (e.g., Guinea water) and have been used to help fund labor retrenchment schemes (e.g., Argentina railways).

- **Mitigation of non-commercial risks.** Instruments include IBRD, MIGA, and IFC guarantees and contingent Bank loans. Bank instruments should be transitional and only be used when they help to reinforce a pre-existing commitment in favor of reform on the part of the government.

- **Other lending operations.** These include other Bank lending and direct IFC project loans. Such operations can be used, for example, to catalyze investments by private firms or to support government financial obligations in a public-private joint venture. To avoid displacing private investment, Bank lending should be used only when such intervention is clearly required to bolster investors' confidence.

- **Equity participation.** In some cases, equity participation by IFC can also be used to bolster investors' confidence and catalyze private investments.

- **Promotional activities.** Promotional activities directed at potential investors can be organized through technical assistance operations. In addition, FIAS "roundtable" seminars can be used to encourage dialogue between government and investors on issues related to infrastructure privatization.

Finally, the World Bank Group can do much to assert leadership in the international donor community on infrastructure privatization strategy. As well as disseminating the lessons of international experience, a coordinated approach may encourage restraint in donor financing that displaces, rather than supports, effective private investment in infrastructure.
## Africa's Infrastructure: Selected Data

### ELECTRICITY

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## ANNEX A

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### ANNEX D

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*Source: Institute of International Finance (1995)*

**Y-Yes**

**N-No**

**N*-Case-by-case

**NA-Not applicable**

**NYA-Not yet available**

**II-Investment insurance**

**L-Limited**

**ST-Short term**

**Only applicable where event is sole cause of noncompletion of project**
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Y-Yes
N-No
N*-Case-by-case
NA-Not applicable
NYA-Not yet available
II-Investment insurance
L-Limited
ST-Short term

** Only applicable where event is sole cause of noncompletion of project
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Y-Yes  
N-No  
N*-Case-by-case  
NA-Not applicable  
NYA-Not yet available  
II-Investment insurance  
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** Only applicable where event is sole cause of noncompletion of project
World Bank Group Projects Supporting Private Participation in Infrastructure in Sub-Saharan Africa

Water and Sanitation

In water and sanitation, the Bank has been active in introducing affermage schemes (Benin, Côte d'Ivoire, Guinea, Senegal). An affermage project in Rwanda is on hold due to the recent turmoil in the country. The IFC has been retained in an advisory role in the privatization of a combined water and electricity company (Gabon).

Electricity and Gas

The largest portion of Bank loans have gone toward management contracts (Ghana, Guinea, Guinea-Bissau, Mali, Sierra Leone). Two loans support leases (Côte d'Ivoire, Guinea), another supports a privatization (Tanzania) and one an IPP (Côte d'Ivoire). The IPP is in conjunction with the IFC and is to be fed gas from an oil and gas development and pipeline project also with IFC involvement. The status of a Bank project for a power affermage contract in Rwanda is uncertain due to the recent turmoil in the country. A loan and contingent credit have just been approved by the Board for a BOO gas-to-power project (Tanzania), and the IFC will undertake an advisory role in a combined water and electricity privatization (Gabon).

Telecoms

Bank loans in telecoms have resulted in three initiatives to introduce competition in non-basic services (Guinea, Madagascar, Tanzania). Two of these projects (Guinea, Madagascar) also involve privatization of the state-owned telecom companies. The IFC is actively involved in three cellular projects (Tanzania, Uganda, Zaire) and a privatization (Uganda). The Bank's effort to promote Rwanda's telecom privatization are to be resumed following the recent massacres.

Rail

In rail, the Bank has effective projects for the contracting out of track maintenance (Madagascar, Zaire) and non-core services (Madagascar), for a management contract (Uganda), and for leases (Burkina Faso-Côte d'Ivoire, Senegal-Mali). An effective loan in Malawi is funding a study on options for private participation. A loan for another lease (Cameroon) is not yet effective, and yet another lease will be financed by IFC (Kenya).

Roads

Among the transport sub-sectors, the Bank has been widely involved in promoting private road maintenance and works (Angola, Burkina Faso, Burundi, Chad, Comoros, Guinea, Guinea-Bissau, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Uganda, Zaire, Zambia). Another such project is planned (Cameroon).

Ports

In ports, the Bank has effective loans to privatize ship and cargo handling (Madagascar) and container and general cargo operations (Mauritius). An IDA equipment credit is going towards a concession contract (Mozambique) in which the IFC is also considering involvement.

Airports

The Bank financed the technical assistance for an airport concession (Cameroon).
Non-Infrastructure Transport Sub-Sectors

In airlines, the Bank has loans effective for a management contract (Chad) and possible liquidations or privatizations (Guinea-Bissau, Senegal). It is also helping introduce internal airline market competition (Madagascar). A project for an airline management contract with a deferred privatization option (Cameroon) is still in the very early stages. The IFC has assisted the privatization of an airline (Kenya) and is involved in the privatization of an air freight carrier (Zimbabwe).

In buses, the Bank is launching a concession scheme (Burkina Faso), a liquidation program (Guinea-Bissau), and two privatizations (Tanzania, Zambia). A loan for another liquidation (Cameroon) is not yet effective.

In ferries, a management contract (Uganda) and a privatization (Guinea-Bissau) are underway with the Bank’s help.

In shipping, loan(s) for coastal and ocean shipping liquidations (Madagascar) and for a privatization or management contract (Mozambique) are effective. Another privatization (Cameroon) is planned.

Other Projects

In addition to its direct involvement in major PPI projects, the Bank is improving the environment for PPI in Africa through structural adjustment loans and the financing of privatization and tariff studies and sector action plans. For instance, one structural adjustment loan (Zimbabwe) presented decisionmakers with options on private participation in telecoms, including possible privatization. Other Bank studies are exploring options for port privatization (Tanzania), rail privatization (Sudan), and general transport privatization (Zaire).

The Bank is funding studies to investigate the possibility of promoting private operation of a hydroelectric dam on the Senegal River; to prepare Congo for private participation in water, power, telecoms, and transport; and to launch a telecom privatization in Cote d’Ivoire.
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<th>Contracting Out</th>
<th>Management Contract</th>
<th>Lease</th>
<th>Concessions/BOOT</th>
<th>Demonopolize/BOO</th>
<th>Divestiture</th>
<th>Other</th>
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<td>Water &amp; Sanitation</td>
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<td>5</td>
<td></td>
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<td>2</td>
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<tr>
<td>Electricity &amp; Gas</td>
<td></td>
<td></td>
<td>5</td>
<td>2 (+1 on hold, 1 planned)</td>
<td>3</td>
<td>3</td>
<td>1</td>
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<tr>
<td>Telecoms</td>
<td></td>
<td></td>
<td></td>
<td>5 (1 on hold)</td>
<td></td>
<td>4</td>
<td>1</td>
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<tr>
<td>Rail</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>(+1 on hold)</td>
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<tr>
<td>Roads</td>
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<td>17 (+1 pending)</td>
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<td>Ships</td>
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<td>0-1*</td>
<td></td>
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<td>3-2*</td>
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<td>Trucks</td>
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*One project may lead to a management contract or a privatization
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