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**Competition and Regulation
In Infrastructure**

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**The views and interpretations in this paper are those of the author
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RESUME ET CONCLUSION

La réforme réglementaire de l'infrastructure africaine s'est accélérée depuis 1995, pas nécessairement à cause de la gestion publique éclairée de la part des gouvernements africains, bien qu'une telle interprétation puisse être soutenue dans certains milieux, mais surtout à cause de l'écart non justifié du revenu par habitant par rapport à celui des autres régions en développement qui ne peut plus être ignoré par les institutions multilatérales et autres bailleurs de fonds, et de la nécessité de développer les marchés pour les produits des pays industrialisés. Ce n'est donc pas par hasard que la région accorde maintenant plus -tutelle ne l'a fait par le passé, une attention particulière à l'annulation de la dette, au renforcement des capacités, et autres projets de développement humain. Même le FMI a annoncé l'adoption d'une nouvelle approche à ses prescriptions de restructuration économique qui, jusqu'à ce jour, sont restées constantes. Par ailleurs, les progrès technologiques ont permis aux pays développés d'adopter une nouvelle approche à la canalisation des ressources vers l'Afrique à un rythme différent de celui que l'on a connu par le passé.

En dépit de la relance de l'activité économique sur le continent, les IFD opérant dans la région sont encore à un stade expérimental et sont fortement concentrées dans quelques pays seulement. Il est clair que, tels que perçus par les investisseurs privés, les avantages potentiels de l'investissement dans les pays africains sont encore insignifiants par rapport aux risques. En effet, à l'exception de quelques projets de construction-exploitation-transfert dans les secteurs de l'électricité et de l'eau, l'investissement et, par conséquent, la concurrence, porte essentiellement sur les segments contestables des marchés dans quelques pays. Ainsi, du point de vue de l'investisseur privé, la réforme réglementaire dans la fourniture des services d'infrastructure dans la région a encore beaucoup de chemin à faire, et ce qui a été fait à ce jour, reste encore à prouver. D'autre part, les gouvernements de la plupart des pays africains sont aussi prudents en ce qui concerne l'ouverture du secteur à la participation privée, de peur d'être envahis par les investisseurs étrangers en quête de rendements à court terme. En conséquence, le processus de réforme a été largement fondé sur la suppression des monopoles dans le secteur des télécommunications et l'octroi de concessions dans d'autres; la participation des employés et collectivités locales constituant de ce fait un facteur important du processus.

Mais, malgré les positions conflictuelles apparentes de l'investisseur privé et du gouvernement, la baisse de la barrière intrinsèque à la participation privée est inévitable, en termes équitables. Les nouvelles techniques réglementaires conçues pour s'adapter aux progrès technologiques du secteur servent aussi à offrir aux deux parties la possibilité d'adopter une approche gradualiste au processus de réforme. Et avec l'expansion, également inévitable, de la zone de confort, il est fort possible que le gouvernement et l'investisseur privé arrivent à cohabiter dans un cadre de coopération et de respect mutuels, dans l'intérêt de tous les participants.

SUMMARY AND CONCLUSION

The regulatory reform of African infrastructure has gathered momentum since 1995, not necessarily because of enlightened governance on the part of African governments, although such an interpretation could find support in some quarters, but primarily because of the unjustifiable disparity in per capita income in comparison with other developing regions which can no longer be ignored by multilateral and other donor agencies, and because of the need to expand markets for industrialized countries' products. It is therefore not accidental that debt-forgiveness, capacity building, and other human empowerment projects have been receiving greater attention in the region than heretofore. Even the IMF has indicated a changed approach to its hitherto unwavering economic restructuring prescriptions. Additionally, advances in technology have provided developed countries with a new approach to the channeling of resources to Africa at a rate not experienced before.

Despite the flurry of economic activity in the region, FDI in the region is still tentative and highly concentrated in a few countries. The evidence clearly suggests that, as perceived by private investors, the potential rewards from investing in African countries are still not commensurate with the risks. Indeed, with the exception of a few BOT schemes in the electricity and water sectors, investment and thus competition is mainly in the contestable segments of the markets in a few countries. Thus, from the perspective of the private investor regulatory reform in the provision of infrastructure services in the region still has a long way to go, and what has been implemented thus far has still to be proven-in. On the other hand, the governments of most African countries are equally wary of opening the sector up to private participation for fear of being overwhelmed by foreign investors seeking short term returns. Hence, the reform process has been largely on the basis of demonopolization in the telecommunications sector and concessions in others, with opportunities for local and employee participation being a significant factor in the process.

But, despite the apparent conflicting positions of private investor and government, there is an inevitable lowering of the intrinsic barrier to private participation on equitable terms. New regulatory techniques developed to accommodate advances in technology in the sector serve also to provide both parties with the opportunity take a gradualist approach to the reform process. And with the equally inevitable expansion of the comfort zone, it is highly likely that both government and private investor will come to coexist in a framework of mutual cooperation and respect for the benefit of all participants.

Competition and Regulation in Infrastructure

Claude V. Chang

1. 1 Introduction

The restructuring of infrastructure is predicated on the need to be efficient in the use of resources and to become competitive in the global economy. It is thus an essential component of regulatory reform, defined here to extend beyond the functions of the regulatory body and to be inclusive of policy-changes aimed at bringing about sector restructuring. In most cases the restructuring process requires the reduction of government provisions by increasing the level of private participation in the provision of infrastructure services. In a limited number of cases it requires deregulation of the industry or a combination of deregulation and re-regulation where natural monopoly characteristics are evident. Thus, in the case of the developed economies, two different approaches have been discerned because of the differences in the nature of the provisions.

In the case of the United States of America (US), the process essentially was one of deregulation and or re-regulation because most infrastructure services were provided by regulated-private monopolies. Deregulation was pursued where the enterprise was a legal and not a natural monopoly and where it was perceived to be in the best interest of consumers if competition were allowed in the industry. Thus the process was essentially one of opening up the market to competition as was done in the airlines industry, for example. Where the service requires a facilities-based local network, a defining characteristic of a natural monopoly, and access to and through it needs to be regulated, as in the cases of telecommunications and electric power supply services, the process of deregulation and re-regulation was the option pursued.

In other OECD countries the process was one of privatization and regulation, in that order for the most part. The more prolific privatization programs were conducted by the United Kingdom (UK) and France. Even here, the approaches were somewhat different: the UK choosing to go to the capital markets “big-bang” for the main part, whilst the French approach was somewhat “phased-in,” acquiring a strategic investor as an integral part of the process. Both served their respective national interests, however, and both were within existing legal and political frameworks. In the case of the UK, the process included the establishment of a regulatory framework for the infrastructure sectors privatized because of the perceived monopoly characteristics of the services and, thus, provided yet another variant prescription for other countries.

With respect to developing countries, given the need to reduce the demands on their fiscal budgets and to raise cash for external debt-repayment, privatization was one of the options pursued with the assistance of the IMF and WB. In the case of infrastructure, the sequencing was generalized to some developing countries on the basis

of the experiences of the OECD countries, mainly the UK's. Indeed, the UK's experience with the privatization and regulatory processes in infrastructure stands as one of the more important early benchmarks in evaluating the processes in developing countries, especially the early-privatizers in Latin America and East Asia.

In the specific case of Africa, the poor performance of their infrastructure sectors under commercialization in the 1980s and early 1990s prompted many African countries to implement or contemplate implementing regulatory reforms in an effort to improve performance and to contribute to the liberalization of their economies as a whole. But whilst the tendency is to regard the issues of "privatization," "competition," and "regulatory reform" as discrete issues based on the UK's experience, the early experiences in Latin America serve to emphasize the interrelationship of the issues. Hence, the process is not simply one of following the leader, and "... trying to apply a one-size-fits-all approach can severely limit the performance improvements that sector reforms hopes to achieve."¹

This paper thus discusses the interrelated issues of privatization, competition, and legal reform in the broader context of regulatory reform from the perspective of the special requirements of Africa. The discussion focuses on the infrastructure sectors of telecommunications, electric power, water and sanitation, railways, ports and airports in Africa. Where needed, the practices and lessons from both developed and some developing countries will be referenced. From an organization standpoint, section 1.2 examines the privatization procedures, including the privatization modalities most favored by African governments in the reform of their infrastructure sectors. Section 1.3 discusses some of the legal issues to be addressed by the reform process, whilst in section 1.4, the design of regulatory institutions in context of country-specific conditions is discussed. Section 1.5 examines the tailoring of reforms to the sectors identified. In this section, the challenges, scope of competition, price structure and other regulatory issues are critiqued within a sectoral framework and context of Africa. Section 1.6 offers a concluding perspective.

1.2 Privatization Procedures

The African response to privatization of infrastructure in the 1980s and early 1990s was commercialization and performance contracting whereby infrastructure management was expected to perform under conditions reminiscent of the private sector. However, the outcomes of such an approach as discussed above proved to be unsatisfactory. Additionally, where privatization had been pursued, according to the WB² the process as applied to Africa has been characterized by poorly designed approaches and a lack of prior preparation, requiring consensus-building, centralized coordination, greater legal authority for the privatizing agency, and transparency. Indeed, the lack of transparency is perhaps the single most important criticism that is leveled against African governments, especially when valuations are considerably below public expectations. This was the case in Côte d'Ivoire and Togo in which both governments were severely

¹ Paul L. Joskow, Regulatory Priorities for Reforming Infrastructure in Developing Countries, (Washington, DC: World Bank), 1998, p. 4

² World Bank, 1997 Abstracts of Current Studies: Private Sector Development and Public Sector Management.

criticized for the lack of transparency in selling state-owned assets.³ In addition, West African countries have been singled-out for their “...extremely cumbersome procedures for setting up and administering corporate structures.”⁴ On the other hand, The Zambia Privatization Agency (ZPA) has been singled as “exemplary” for accountability and transparency.⁵ These observations have influenced recent approaches to the process, especially with respect to the privatization of infrastructure which has become the main focus of many African countries’ privatization programs.

In the specific regard to infrastructure, in addition to the issues raised by the WB, innovative operating and financing structures are typically considered essential aspects of the privatization process given the monopoly nature of the services and the requirement for sunk capital. Moreover, the process is made complex by issues of social obligations and the absence of market-oriented institutions. Nonetheless, the pace of privatization in infrastructure has picked-up in the last few years as the experience-base is expanded and deepened, and the process is approached within the broader context of modernization and promoting economic growth. Therefore, the purpose of this section is to analyze the privatization methods and procedures most utilized by African countries and the extent to which they facilitate overcoming many of the aforementioned constraints. However, as revealed by the experiences to date, the privatization process in Africa generally requires a two-prong approach as opposed to the standard approach contained in the early literature on the subject. The first requires creating an enabling environment whilst the second treats with the process itself. Moreover, although it would be preferable to have an established enabling environment preceding privatization, the two are often pursued concurrently. Hence this discussion will treat with the subject of procedure as two separate but related issues.

1.2.1 Creating an Enabling Environment

With respect to creating the enabling environment, since many of the institutions supportive of a market economy were dismantled in the 1960s and 1970s, the process of institutional and capacity rebuilding is often a requirement. Hence an assessment of existing economic, social and political institutions is required as a first step. Knowing the constraints allows for prior preparation, which studies conducted by the WB have revealed as lacking. For example, a developed private-sector is often found to be lacking in several African countries, requiring institutional rebuilding and capacity building. The absence of developed financial markets also makes public offer of shares a difficult and costly process. The absence of domestic credit further serves as a constraint to domestic participation where this is a national objective. Moreover, with a GDP per capita of US\$200 or below, it is highly unlikely that broad-based ownership is a realistic goal. And where there are concerns for jobs or the likelihood of increased cost for a service once considered a necessary social obligation of the government, it would be unrealistic to expect national support without some form of consensus-building. With special attention to sequencing, many of these enabling-issues can and have been addressed in tandem

³ Campbell White, Oliver and Anita Bhatia, 1998; Dzisah, Melvis, 1996.

⁴ Vuylsteke, Charles “Techniques of Privatization of State-Owned Enterprises” Vol. 1. Methods and Implementation. World Bank Technical Paper Number 88. (Washington, DC: IBRD/WB), 1988, p. 92

⁵ Campbell White, Oliver and Anita Bhatia, 1998

with the privatization process; some are prerequisites and must precede the actual privatization process.

Hence, one of the first procedural steps following the initial assessment is obtaining political commitment to the privatization process. An overarching concern revealed by various studies conducted by the WB is the extent to which there is an absence of national consensus for the program. Ideally, the program must be open to public debate and receive support through the national political process. Here again, several African countries have sought to address this issue, albeit retroactively in some cases. For example, whilst the Burkina Faso's privatization program had the full benefit of political debate before becoming law, in other countries national political consensus had to be sought retroactively. This was the case of Ghana's privatization program, which was approved six years after implementation began, and Togo's, which received legislative approval several years after the program had begun.⁶ The recent approval of Mali's privatization program evidenced consensus-building as current in the privatization approaches in African countries. Without such national consensus, the process likely will be slowed from a lack of cooperation by lower-level bureaucrats, trade unions, and employees of the enterprise who are opposed to privatization. How such national consensus is obtained depends on each country's idiosyncrasy.

Legislative approval to privatize can be in the form of blanket approval as have been done in many African countries - for example Ghana, Mali, and Uganda - or on a case by case basis as in the case of the Mauritius Telecom (MT) where the authority to privatize is incorporated in Telecommunications Act, 1998. Once the decision to privatize has been made and a list of infrastructure to be privatized issued, the corporatization of the assets of the sector or sub-sector to be privatized as a going concern must follow as a requirement. Corporatization usually requires old company laws to be reenacted, or laws restricting private participation, especially foreign, legislatively removed. Where neither is applicable, then the establishment of laws governing the relationship and conduct of corporations is the requirement. In some cases corporatization has preceded legislative approval to privatize. For example, Botswana Telecommunications Corporation (BTC), MT, Nigeria's NITEL, and others operate as state-owned corporations. The process of corporatizing the entity provides the government an opportunity to address ownership issues. Assets can be transferred free of all prior claims, and all liabilities, known or unknown, be assumed by the government. It also provides the government with the opportunity to clean-up the books and to separate questionable assets, such as accounts receivable. Failing such a clean-up of the records, the issues will tend to delay the process unnecessarily.

In most cases where employee and union opposition have been encountered, it was because of a lack of consensus-building. The divestiture of TELEBRAS in Brazil was delayed in part because of union opposition to the sale. The same was true for the sale of the Puerto Rico Telephone Company to GTE as evidenced by the employee riots in Puerto Rico in mid-1998. On the African scene, the unions in Lesotho unanimously rejected the government's privatization program for fear of loss of jobs and concern over employees' financial inability to participate in the process.⁷ In Niger, a two-day strike

⁶ Campbell White, Oliver, and Anita Bhatia, Privatization in Africa, (Washington, DC: World Bank) 1998

⁷ Africa Information Afrique, (AIA, 960502.LES)

that paralyzed the country was staged by electricity workers in opposition to the country's privatization plans.⁸ Even in the most recent privatization of the Ghana Telecom (GT), the Communications Workers Union complained of not being consulted and were concerned over job losses.⁹ Employee consensus building is possible by soliciting input from management and employees not only in regard to the best method to adopt but also to their beneficial interest. Management and employees are better informed about the enterprise than are bureaucrats and politicians. They, more than anyone else, will be more aware of the state of assets and of any hidden liabilities. Employees also have been known to assist in the process by disseminating information to the general public where there is an institutional void.

Input from the local private-sector and community groups will also prove valuable, especially where foreign participation is an issue and cost recovery is a likely regulatory issue once the entity is privatized. By including these groups in the decision-making process, such concerns can be articulated and resolved prior to privatization. The criticism against the government of Ghana in the privatization of GT speaks to this. In addition to the concerns raised by the union, local businessmen lament their inability to compete against foreign investors for infrastructure properties and the apparent lack of assistance from the government.¹⁰

Consensus-building is a necessary aspect of democracy and will require time before it becomes a natural extension of governance. Employee and community participation in the decision making process might not find support in autocratic regimes but is nonetheless valuable to both government and the potential investor. In the first place it demonstrates a changing approach to political governance which is one of the criteria for debt relief. In the second place, potential investors need to know the level and degree of cooperation to be expected from management and employees of the enterprise and from the community at large.

1. 2. 2 Methods of Privatization

The next step in the process is determining the method of privatization which should also receive national support. As evidenced by the privatization procedures in both developed and developing countries, methods of privatization and attendant procedures are largely determined by the objectives of privatization and prevailing local conditions. From these experiences in developed and developing countries, objectives vary from raising cash, to broadening the base of share-ownership, to other goals such as improving efficiency in resource allocation and in enterprise operations. For most developing countries the goals are still to reduce the budgetary burden on the government and to create an enabling environment for private participation in the economic development of the country. Both of these goals can be achieved either by full or partial private-sector participation once the basis for such participation has been determined, received national support, and is made transparent.

⁸ Hawkins, Paula, and Bill Shepherd, "Outsiders Get Serious About African Investment" in Global Finance Vol. 11, No. 4, (New York: Global Information Inc.) April, 1997

⁹ Opuku-Mensa, Aida, "Not so easy to talk" in Africa Business, (London, IC Publications Ltd.), April, 1997

¹⁰ Ibid.

In the specific regard to Africa, the approach tends to vary based on the nature and operating conditions of infrastructure assets. Moreover, Francophone countries appear to demonstrate a preference for a combination of concession agreements with public offer for the privatization of their utilities, airports, ports, and railways. As regards privatization of the telecommunications sector, the dominant methods are concessions for wireless services and the acquisition of a strategic investor for the facilities-based network operator. The latter, in addition to having a stake in the enterprise, provides the management and financial expertise necessary to improving performance of the enterprise. In many cases, investment obligations attached to both methods are also known up front and thus become public knowledge, thereby helping to build national support for the process. Hence the countries listed as having divested their telecommunications sector (Table 1.), have done so on the basis of acquiring a strategic investor with management responsibility and build-out obligations for their publicly-owned network providers. For example, a 33.3 percent stake in Senegal Telecommunications Company was recently sold to France Telecom for US\$ 107 million coupled with a commitment to build another 300,000 mainlines in ten years at an estimated cost of US\$330 million.¹¹ Also, the presence of other foreign operators as strategic partners with build-out obligations in South Africa, Ghana, and Uganda, evidenced this trend.

Many countries have indicated adopting the strategic investor approach. Moreover, the privatization procedure adopted by Ghana for the privatization of the Ghana Telecom was equally ground breaking for Africa and should be a benchmark for privatization in other infrastructure sectors. For example, in addition to inviting input from prospective bidders to inform the process, including post-privatization performance and regulation, price was made the deciding factor in a single-round sealed auction. As a result, the two transactions took less than a year from start to completion. Hence, whilst there are several methods of privatization, the methods and procedural issues analyzed in greater detail in this sub-section are those most applicable within an African context.

(i) Concessions

In the case of a concession, the construction and operation of the system is contracted out. The concessionaire finances construction and operates the system at its own risk. The concessionaire is expected to maintain the system in good repair and to transfer the system to the local authority on termination of the concession. Thus concession is essentially a build-operate-transfer (BOT) arrangement, although the transfer is rarely resorted to. Invested capital and operating expenses are recoverable through user-fees set in accordance with the guidelines contained in the concession agreement. Also contained in the concession agreement are provisions with respect to set asides for public use, low cost provision to the poor and other conditions. Concessions are usually for a period of between 15 to 30 years. In many ways the licensing of cellular telephone service providers exemplify the use of concession as a privatization modality in the telecommunications industry. In the electricity sector, independent power producers (IPPs) also can be similarly utilized as a

¹¹World Bank, Annual Report, 1997

means of privatizing the sector. Here the technique can be applied to increase existing power supply by licensing a small power generating unit or to a large electric power project involving a consortium of several international firms and financing agencies.

Where the concession is a BOO for the provision of telecommunications service, the terms and conditions of the concession are published and qualified applicants received by the licensing authority, usually the regulatory agency but in some cases the Ministry responsible; the enabling legislation specifies which. The license to build and operate is awarded based on the published criteria and the operator is expected to conform with the terms and conditions of the concession agreement. The same is basically true for other infrastructure services under a BOT, with the possible exception that failure conform to the terms and conditions could render the “T” aspect of the agreement enforced by the government.

Because BOTs are usually for large projects requiring sunk investment as opposed to the BOO arrangements of cellular telephone providers, a comprehensive legal framework that clearly set out the basis for approval and award of concessions is an absolute prerequisite. Equally essential are detailed implementation rules and regulations governing the process. Whilst some countries have established agencies to assist foreign investors secure the required approval and clearances, the criteria for approval and the procedure to be followed should be published so that investment decisions are fully informed. More importantly, inter-agency responsibility should be minimized, and the agency with decision-making authority should be clearly specified so as to avoid bureaucratic bottlenecks.

Where there is existing state-owned assets, the general procedure is to identify the assets to be transferred to an independent entity and invite bids based on both the asset-base and other terms and conditions. For example, in the recent privatization of the Cameroon railways, the procedure involved in the first instance transferring the working assets of the state-owned railways to a new company in which the concession is being offered. The next step is to invite bids based on the published terms and conditions. The Cameroon government received 12 bids for a 60 percent stake and a 20 year concession on its railways. With respect to price, in the case of the Cameroon railways concession, the price was a fixed monthly amount plus a fee based on turnover. The concessionaire in this case was also committed to a US\$80 million investment program and to bearing part of the cost of redundancy payment of 450 workers to be terminated.

Concession agreements allow the government to increase and improve service with minimal public investment, thereby relieving the budgetary burden of expanding infrastructure service. Indeed, expanding infrastructure service on the basis of private-sector investment is a privatization technique that bridges the divide between public and private provision of such services, and is more politically tenable.

(ii) Acquisition of a Strategic Investor

Assuming that the entity has been properly prepared, corporatized and records cleaned-up, the procedure here is simply to announce the tender, which is an invitation for offers from qualified interested parties. At this stage, pre-qualification requirements must be made transparent and all applications accepted on the basis of such requirements. Where a short list is to be prepared, the basis must be made public as part of the process. The short-listed candidates will then be given an opportunity to secure additional

information and to articulate concerns on issues that could directly impact their ability to operate the entity as a viable commercial enterprise. As was done in the case of privatization of the Ghana Telecommunications (GT), the input from the potential final bidders can then be assessed and the more significant incorporated into the final conditions of offer, including any that the government chooses to impose, such as “single bid” only and the basis on which a decision will be made, for example highest bid-price, again, as was done in the GT privatization.

(iii) Public Offering

Where broad-based ownership is an objective, a proportion of the shares can be designated public offer. But this requires either a developed domestic capital market of size or a fully government-supported structured mechanism that functions in place of an organized capital market. Egypt, Ghana, Nigeria, and South Africa have all experienced tremendous increases in market capitalization in recent years and have developed absorptive capacity for at least a proportion of infrastructure public offerings. Others, such as Côte d’Ivoire, Cameroon, and Uganda, are quickly developing their domestic capital markets to support both domestic and regional trade in equity. For example, the government of Cameroon, proposed to privatize its infrastructure partly on the basis of a public offer of between 20 to 30 percent of the shares in the entities to be privatized. Mauritius plans for the privatization of its telecommunications monopoly as articulated in the 1998 Telecommunications Act, include both employee share-ownership and public offerings.

Public offerings have all the required characteristics of wide-spread ownership, domestic resource mobilization, openness, and transparency. From a procedural standpoint, the requirements for public offering are more demanding. Not only must the entity be legally readied but it also must demonstrate compliance with disclosure requirements and have the potential for profitability on a consistent basis. In other words, the more successful public offering of infrastructure shares will be one for which the enterprise has a reasonable track record, is capable of consistent growth, is minimally exposed to the fortunes of government, and whose shares are in demand.

In cases where indigenous capital markets are poorly developed but broad-based ownership is an objective, investment trusts can be established as was done in Zambia and Kenya, for example. It is also possible to have the strategic investor acquire a larger stake in the enterprise with the requirement to release a certain percentage of its holdings to the public in accordance with a predetermined schedule, usually to coincide with the expected development of the local capital market.

(iv) Private Sale

Private sale is often resorted to where the asset is not directly related to the provision of the underlying service. For example, Tanzania railways sold off its hostel assets which were not directly freight or passenger oriented. Similarly, Cameroon Ports Authority is proposing to sell the ice-producing facilities as part of the privatization of its ports. Although not unheard of, private sale of public infrastructure in its entirety “big-

bang” is rarely pursued because most governments retain a stake and also want to have local participation, preferably broad-based.

In private sales, procedural issues assume greater importance than in a public offering or acquiring a strategic investor through the bidding process out of concern for safeguarding the public’s interests. Individual deals should conform to minimum standards that maximize return to the state, protect the general public from operational abuses, and ensure competency and financial viability of the enterprise. Individual deals that were concluded in secret negotiations have rarely gained general acceptance even after several years of operation and evidence of some tangible benefits ensuing to the public. For example, although the sale of 80 percent of the shares in Guyana Telephone and Telegraph Company (GT&T) to Atlantic Tele-Network (ATN) was concluded in the early 1990s, the sale is still being questioned because the deal was privately negotiated and lacked transparency. At the root, are charges of corruption and under-valuation of the assets. Valuation becomes more critical in private sale than if the price were market determined.

(v) Valuation and Price

The need for strict procedures governing the objective valuation of assets or an enterprise as a going concern must be addressed in the enabling legislation. More often than not, country conditions dictate that the price arrived at should not be determined solely on the basis of financial criteria. Indeed, too often in past the price of an enterprise has been determined on the basis of market valuation, price-earning ratio, and discounted cash flow, without regard for the well-being of society or indeed to asset value. To poor countries, the social welfare trade-off could be even greater especially when divestiture means increasing the level of unemployment in the country. Many African countries are faced with the dilemma to sell at below asset valuation or forfeit debt-restructuring because privatization conditions attached to structural adjustment loans are public knowledge. For example, earlier attempts by Nigeria, Tanzania, Mozambique, and Uganda, to privatize were less than successful because asset valuation were above offers received, creating a “saleability” issue. In the case of Uganda, offers received for state-owned enterprises averaged 10-33 percent of official valuation whilst some 40 percent of Mozambican state-owned enterprises were sold for less than 75 percent of valuation.¹² At the other end of the spectrum, Guinea was able to dispose of most of its state-owned enterprises as a result of gross under-valuation by state auditors.¹³ Valuation is thus clearly a challenge to African governments faced with dilapidated infrastructure, hard-budget constraints, national pride on the one hand, and on the other, the prospects for debt-forgiveness and a private-sector-led economy.

In more recent privatization where divestiture was not an imperative, the potential for sustainable growth in profits, cost recovery, and market-exclusivity have tended to be the final determinants of actual price in the divestiture of infrastructure. For example, in the case of the privatization of Ghana Telecom, several potential final bidders withdrew from the process because of the absence of exclusivity. On the other hand, the procedure

¹² Business Africa, January 16-31, 1997.

¹³ “Privatization: real obstacle still political” in *Africa Business*, (London: IC Publications Ltd.), March, 1997.

of opening up the process to multiple bids capitalizes on the nature of international competition and ensures that at least one bidder is willing to take a chance based on its necessarily idiosyncratic assessment of the relative risk-reward relationship.

Because of the sensitivity surrounding valuation, the asset-valuation process has received close attention by governments conscious of public opinion. In the UK, the British government was criticized for keeping valuation below market-clearing prices.¹⁴ In France, the valuation is done by the Privatization Commission consisting of seven members drawn from the legal, economics and financial professions. All assets or enterprises to be privatized must be valued by the Commission and must be made public. The process also includes assets transferred by the state in exchange for a stake in the enterprise. In contrast to the criticism leveled against the British government, the French government was accused of being a “greedy state” because prices did not increase, and even declined from the initial issue price, albeit years after the public offering.¹⁵

Valuation is also an issue to be resolved in the case of a public offer that has no existing framework. An initial public offering (IPO) ill-timed in terms of enterprise performance or market sentiments can result in a less than compensatory price being obtained from the issue. For example, in an attempt to capitalize on what was perceived as a growing interest in equity, the government of Guyana made a public offer of shares in Guyana Stores Limited. The issue was severely under-subscribed because of questions surrounding the enterprise ability to perform. On the other hand, a properly timed public offer reaps unexpected benefits to the state. The recent upsurge in stock-market valuations has benefited Spain in the privatization of its electric power sector, and Brazil in the privatization of its telecommunications sector. In the case of the latter, the windfall was close to US\$8.0 billion or close to 70 percent above expected sales proceeds of US\$11.5 billion.

Where the offer is to encourage wider share-ownership, limitations as to subscription can be imposed and special incentives can be incorporated into the price. Special credit arrangement can also be made available to applicants below a certain income level. Where the public offer is for residual shares after the acquisition of a strategic partner, the price is more easily determined and the proposed level of incentive can be reflected in the asking price. For example, in the divestment of its water utility, SONEES, the government of Senegal made a public offering of 49 percent of the shares after its sale of 51 percent to the French firm, SAUR.¹⁶ Some countries, Ghana and Zambia, have resorted to “deferred sales” to encourage indigenous participation, while Uganda used public auctioning as a modality. Even then, the Ugandan government has been criticized for its privatization program which was perceived by trade unions and indigenous private-sector as favoring foreigners.¹⁷

(vi) Employee Participation

Regarding the issue of employee equity-participation, stock-option, pension plans, and set-asides are the usual mechanisms. For example, in Côte d’Ivoire, 5 percent

¹⁴ Vickers, John and George Yarrow, *Privatization: An Economic Analysis*, (London: MIT Press), 1988

¹⁵ The Economist, *Privatization in Europe: Is the price right?*, November 23rd 1996

¹⁶ Business Africa, February 16-29, 1996

¹⁷ Ibid., October 1-15, 1996.

of the shares of the utilities were set-aside for employees and many African countries are now including employee set-asides as part of the process. These can be transferred to a Trust Fund and be released as employees are financially able to take up their shares. Some developed and developing countries have provided interest-free loans to employees for purposes of acquiring shares in their employing-company. Whatever the option pursued by the government, the potential investor also needs to know the extent of employee participation and whether or not there are minority put-asides. For example, while not directly related to employees are the set-asides to a National Investment Trust Fund for future issue to “black” Zimbabweans from the privatization of PTC and the state-owned telecommunications equipment manufacturing enterprise.¹⁸

! 3 Legal Issues

As shown above, the essential issue is being able to assess relative risk and attendant responsibility for getting to the point of reciprocity in the process. In this connection it is clearly the responsibility of the government to create an enabling and legally-protective environment in the first place, and in the second, to establish a regulatory framework that is supportive of the principle of fairness. Private investment after all is not an altruistic function, and the investor is principally concerned with risk and reward. The risk can be minimized by offering a low purchase price, which tends to conjure charges of greed and of giving away the family jewels, or by reducing the risk factors which serves to increase value, as was clearly demonstrated by the TELEBRAS privatization. Given this functional separation of a general legal framework and a regulatory framework governing the provision of the infrastructure service, this section addresses the legal issues as separate although there will be the inevitable crossovers at times.

1. 3. 1 Property Rights, Contract-enforceability and Dispute Settlement

A legal framework that seeks to promote and protect property rights, serves also to promote investor-confidence and thus willingness to become involved in the first place, if not at a higher economic price. To the extent that the choice of economic systems has been made, the next item on the legal reform checklist is the enshrinement of individual property rights. Individual property rights must be a fundamental principle of the society in which the enterprise operates. These must be defined clearly and the laws enforcing them must be fair and equally clear if not tried and proven. It follows that such laws neither benefit one party at the expense of the other nor punish one party to benefit another. The individual consumer has as much right to receive what he or she bargains for in the same way the enterprise has a right to recover its costs in providing the service, including a fair return on its investment. Thus, laws protecting such relationships must be fully enforceable by a legal system that is credible and beyond reproach. The laws most often referred to in this context are those of contract law, laws governing ownership, and laws governing the avoidance of responsibility, such as liquidation and bankruptcy.

¹⁸ Ibid., April 16-30, 1997.

The laws governing liquidation and bankruptcy are as much part of the process of defining the relationship between parties as are the laws of contract. They are of particular significance in the provision of infrastructure services since such services are considered vital to a country's well-being and operators may be prohibited from going bankrupt. Indeed, publicly-owned providers are usually not allowed to go bankrupt because government subsidy is generally an integral aspect of financing the service. In the case of a private provider, it would likely depend on whether or not the service is a monopoly. In the case of a monopoly provider, the issue is usually covered by regulation. Where there are several private providers, commercial bankruptcy laws are likely to apply, but again should be stipulated so as to avoid confusion.

In many cases, the right of ownership to land had been severely impaired during the decades of "reactive nationalism." In addition, discrete laws prohibiting foreign ownership of land, or leases, were enacted by several countries during this period.¹⁹ Discrete legislative acts prohibit some enterprises from participating in certain transactions. Whilst the majority of African countries have sought to remove these barriers to a market economy, many such laws still remain as legal constraints to private participation. In Madagascar, whilst the law prohibiting foreign ownership of land remains on the books, a clarification issued by the government in 1995 permits foreigners to lease land for a period of up to 50 years.²⁰

It is often pointed out in the literature, especially in regards to Africa, that the relevant legal and regulatory framework is either absent or is in an early stage of development because of an a "...limited tradition of adhering to the rule of law."²¹ But the relevant regulatory framework was equally absent in most of the countries which have recently privatized their infrastructure sectors. The difference is that they were able to establish such regulatory framework at their own pace and based on their own institutional foundations. This does not mean that the foundation is absent in African countries. Most African countries were European colonies and thus inherited European institutions. Hence the transition is not so much as not understanding the concept of law but more one of reluctantly returning to an economic system from which they sought to distance themselves.

To be sure, however, the deep embrace of a socialist economic system by several African countries for almost a generation rendered laws supportive of a free-market economy a new experience for many of them. Indeed, to many of these countries with emerging private sectors, newly established business legal frameworks will not have had the requisite experience-base on matters of contract-enforceability and dispute settlement. Moreover, because infrastructure projects are contract-intensive and usually involve the state or state-owned enterprise as a party, the issue of equal status under the law will likely arise from time to time until firmly established by judicial decisions. The cancellation of the joint venture agreement between Nigeria's NITEL and Digital Communications Limited in 1995 following a dispute between the partners evidenced the need for a body of case law. The cancellation in April 1998 by Tanzania state-owned electricity corporation, TANESCO, of its contract with Independent Power Tanzania Ltd.

¹⁹ Campbell White, Oliver, and Anita Bhatia, 1998.

²⁰ Ibid., p. 155

²¹ Michael Kerf and Warrick Smith, "Privatizing Africa's Infrastructure: Promise and Challenge" World Bank Technical Paper No. 337, (Washington, DC: IBRD/WB), 1996, p.x

(IPTL) for the construction the 100MW electric power system,²² evidenced the need for specific laws governing BOT or concessions to be fully integrated into the general legal framework of laws governing contracts and other commercial practices. Both cases evidenced the respective country's approach to dispute resolution, an important issue to foreign investors.

Several African countries have since begun the process of restoring the above-mentioned laws as fundamental to their societies. For many, it is simply a matter of removing laws restricting private participation in economic activity. For others, the process includes also removing restrictions imposed on foreign private participation and on the rights of foreign personnel. Regarding foreign investment, the issues include the right to repatriate capital and income derived from investment without hindrance, and the right to international arbitration where there are significant differences in due process. Several African countries have joined MIGA in addition to entering into bilateral country agreements with the investor home country so as to increase the level of investor confidence for increased FDI. In the last year, sixteen Francophone countries have sought to harmonize their commercial laws through the Organization for the Harmonization of Commercial Law (OHADA) so as to portray a commitment to the concept of property rights and the development of their private sectors.

1.3.2 The Legal Framework for Privatization

The first concern in the privatization process as noted above is for the process itself. The intent of the government is reflected in the privatization law. The legal status ascribed to the privatization agency, the authority with which it is endowed, and the procedures to be followed usually dictate the success or failure of the program. In addition, pre-qualification requirements, limitations, such as the extent of foreign participation, and the right to due process, should also be defined in the enabling legislation, where possible. Clearly defined, they engender investor confidence in the program and pave the way for quick resolution to operational issues as the experience-base is established on a consistent basis.

Whilst several countries have passed a Privatization Act in general terms, others have fully embraced the concept legislatively and have endowed the privatization agency with broad powers, as in the case of Zambia. Others yet - Burkina Faso, Togo, Kenya, and Ghana, to name a few - have elected to take a case-by-case approach within a general privatization-policy framework. In most cases, country-specific conditions, including the political climate, often are the determinants. Whatever the approach, it is necessary to review the provisions of the Privatization Act or similar legislation with the different acts that created parastatals and with other discrete Ordinances. For example, in the case of Tanzania, it was found that the Companies Ordinance, the Treasury Registrar Ordinance, and other primary corporate laws were inconsistent with the Public Corporations Act, as amended in November 1993, which established the Parastatal Sector Reform Commission (PSRC).²³

²² Business Africa, May 1-15, 1998

²³ MIGA, Country Paper on Tanzania, 1998

With respect to the privatization process, once established, the privatization agency should have the full backing of the legal system and be immune from political interference. In this regard, the Zimbabwean court's ruling against the government in its bid to restrict private-sector participation in the provision of cellular telephone service in that country is instructive.²⁴ Also, too often the privatization of a state-owned enterprise is taken out of the mainstream for special handling by the Minister in whose portfolio the entity resides. This automatically creates transparency problems because of the political aura the process takes on. More importantly, the privatization agency is thus rendered weak in the eyes of potential private participants who thenceforth become unsure of the process.

Other concerns are for issues directly impacting the operations of the service and include, among other things, mandated investment programs, fair-pricing for cost recovery, access to and quality of service, conservation and environmental issues, and disclosure requirements which go to the root of transparency. These issues can be addresses in the privatization law governing the specific infrastructure service or deferred to the privatization agency for resolution within the established legal or regulatory framework. In either case, the rules addressing these issues should be transparent both in word and deed.

Foremost, however, is the issue of preemptive rights, used here to include the right to restitution. Where the enterprises to be privatized were expropriated, the issue of restitution more often than not require legislative action, especially where expropriations were promulgated by Legislative Acts. Restitution signals a commitment to the liberalization process and serves to secure multilateral and bilateral institutional support as revealed by the increasing willingness of creditor-countries to grant debt-forgiveness and debt rescheduling to highly-indebted countries. For example, substantial debt-forgiveness were accorded Hungary and Poland in part because restitution was a major aspect of their privatization program. Whilst Czechoslovakia and Hungary sought to return confiscated properties, in the case of Poland, restitution was by way of set-aside of part of the sales proceeds from privatization. In some Latin American countries where restitution to prior ownership was adopted, as was done in Chile, creditor-nations were found more willing to lend support to the rebuilding process.

In one African country, Kenya, negotiated sale with respect to the exercise of preemptive rights has been made a modality of privatization. However, it was found that the rights of preemption were an impediment to the government's objective of wide-spread ownership of shares primarily because of the large number of enterprises that were subject to preemptive rights. Additionally, the holders of such rights were mainly foreigners. The government considered repealing such preemptive rights but instead adopted the approach of negotiating them away.²⁵ Because Africa countries pursued egalitarianism on gaining political independence in the 1960s, private ownership and enterprise accountability had given way to communal ownership, shared responsibility and benefits, and inadequate record-keeping, with many prior owners having some form of preemptive rights in consequence of political and economic reforms. It is therefore an

²⁴ Business Africa, (London: Economist Intelligence Unit Ltd.), November 1-15, 1995

²⁵ MIGA, Privatization of Public Enterprises: The Kenya Experience, 1998

essential condition of the privatization process that private investors be protected from all preemptive rights, beneficial ownership as well as liens.

1. 4 Design of the Regulatory Institution

The proper design of the regulatory institution is critical to the objective of increasing private participation in the provision of infrastructure services. Because of the absence of appropriate African benchmarks, the approach to design of the regulatory framework has been on the basis of the experiences in developed countries. However, the danger of this approach lies in adopting a regulatory institutional framework based on a superficial assessment of the local environment. Too often in the past the regulatory framework took the form of an imported-prepackaged-technically-efficient but inappropriate model, lacking local insights. In other cases, government inexperience with the process and a general reluctance to relinquish control of a sector from which they have gained political support, have combined to create a less than effective regulatory framework. Thus, regulatory frameworks rooted in either of the aforementioned approaches often result in conflict among the parties: investor, government, and consumers. Evidence the case of Argentina, where an ill-defined regulatory framework resulted not only in confusion among the agencies vested with regulatory powers but also in conflicts between operators and regulators. The situation was also not helped by the large number of infrastructure enterprises privatized within a short period.

Also, because regulatory institutions do not by themselves make for effective regulation, context becomes significant. In the industrialized market economies, context has largely informed the “rules of the game” by which investors and governments play. As regards developing countries where context is different, the Argentina experience, and indeed others, have demonstrated the need for a more country-sensitive approach to implementing regulatory reforms, especially in the low-income countries. Hence, an important part of the discussion on designing a regulatory framework is on understanding and establishing the “rules of the game.”

1. 4. 1 Rules of the Game

In the specific regard to Africa, learning the interplay of the new rules of the game is as much part of the process as knowing the rules themselves. Whereas, public provisions are authorized by the political process in the first instance and thereafter supplied by government bureaucrats adept at interpreting bureaucratic rules and regulations and in interacting with one another and politicians, private sector participation in the provision of infrastructure services requires a different set of rules by which to be guided. This is because private participation is predicated on the profit motive, where the primary objective of participants is the acquisition of property rights that give claims to welfare benefits. It is a process where, according to Adam Smith, every individual “...neither intends to promote the public interest nor knows how much he is promoting it... he intends only his own gain...”²⁶ The profit motive is thus a

²⁶ Adam Smith, *An inquiry into the Nature and Causes of the Wealth of Nations, Vol. I* Eds. Campbell, Skinner and Todd, (Oxford: Clarendon Press), 1976, p. 477

fundamental principle of economic orthodoxy that underlies market economies, and once understood by the participants, investor and consumer alike, establishing an equitable and workable regulatory framework becomes a matter of checks and balances. It is what regulation in industrialized countries purports, and to what the rules of the game refers.

As applied to infrastructure services, the interests of the consumer could be safeguarded by the introduction of competition as a “first best” choice as country and industry conditions allow, or by the implementation of regulation that seeks to protect the consumer from the abuse of a monopoly position where competition is nonexistent or minimal, or a combination of both, depending on the degree to which it is possible to have market-determined prices within the given infrastructure service. But even when prices can be market-determined, it may be necessary to regulate for income distribution reasons, especially in the poorer countries.

Where regulation is deemed a requirement, the framework should be simple yet address the fundamental objectives of regulation, which is to correct for market failure. From an investor perspective, however, in addition to having a clearly defined legal framework, the principle of cost recovery must be fully supported by both consumer and government in any economic environment in which private participation is required. Without the discipline of paying a fair and reasonable price for service, private investors will tend to shy away from sunk investment at any price. Hence, a regulatory framework that supports cost recovery is a prerequisite to promoting private participation at a level that is mutually beneficial to investor, government and consumer.

Where either party is perceived to be at a competitive disadvantage in consequence of unequal weighting in the market place, it is the role of the government to regulate the conduct of both so as to maintain a balance between them. It is this objective of equity that underlies the principles of regulation, although achieving it is never as straightforward, not even for developed countries. This is especially the case where regulation has been made an evolving process as technological advances permit further deregulation in sectors previously thought to be natural monopolies. Thus the rules of the game are made fluid by advances in technology, and in this respect Africa is no more backward than developed countries in which regulatory frameworks tend to lag advances in technology.

The above said, African countries must first establish the basic regulatory framework upon which to build and by which private investment in infrastructure can be informed. It is to this basic regulatory framework that investors look for rules governing entry, exit, scope of participation, and cost recovery. Hence, to be effective, it should be one that removes restrictions on private participation in the provision of infrastructure services as was done in Mauritius, Botswana, Gabon, and Côte d’Ivoire, to name a few. The framework should also provide performance criteria against which the operation of the franchise can be assessed. This is especially important where the penalty for nonperformance is to default the franchisee and take control of the assets without compensation.

In most cases, private investors seek to inform the regulatory rules adopted by the host country, especially where such rules impact cost recovery in an uncertain economic and regulatory environment. Thus, whilst it is somewhat incongruous to speak of exclusivity in context of competition, many investors deemed it a necessary incentive for participation. For example, in the case of the privatization of the telecommunications

sector in Côte d'Ivoire, a condition for participation was that the enterprise remained a monopoly for seven years. Also, in the case of the privatization of Ghana Telecom, several bidders reportedly withdrew because of the small size of the market and the absence of a "limited-period monopoly" clause.²⁷ On the other hand, where the regulatory framework precedes privatization, the conditions attached to the concession become the basis for the tender and potential investors must enter their bids accordingly, as was the case with the tender offer for the TELEBRAS wireline concessions where the regulatory rules were well established and the conditions attached to the concessions were clearly stated.

Whatever the situation, however, the responsibility of the government lies in ensuring that the rules and procedures for awarding concessions are clear, transparent, and legally enforceable. Thus, in the case of the licensing of MTN Uganda as the second national operator, the incorporation of a reduction in local rates in the concession though not welcomed was not a surprise. It is clearly a matter of judgment on the part of the government and the relative bargaining strengths of the parties whether or not the enterprise remains a monopoly, the duration of the monopoly, and other conditions attached to the concession. It is also the responsibility of the government to set out the rules by which the monopoly will be expected to operate. These should encompass the conditions for future investment, the extent to which price is regulated and how determined, whether or not cross-subsidization is utilized as an income distribution mechanism, the duration of the monopoly, and the geographic reach and range of services covered.

Country- and industry-specific conditions and objectives should ideally define the regulatory framework adopted, and in this connection there are several country-examples in Latin America and Africa from which to draw. Where income distribution is an stated policy objective, the South African approach to the reform of its telecommunications sector provides lessons on the use of regulation as a mechanism for social redress. It also evidenced a more pragmatic approach to price-determination, adopting a "price-cap" approach rather than a rate-of-return regime that characterizes the process in the US.²⁸ The price-cap formula employed is the "RPI - X" formula used by OFTEL of the UK, where RPI represents the general price index and X a variable by which gains in productivity are factored into the price. As applied in developing countries, X likely will be required to be adjusted frequently because of the level of inefficiency going in. Also, so as to encourage future investment, X should reflect a sharing approach to efficiency gains.

An often overlooked issue in concession agreements is the extent to which new technology will be allowed to be incorporated into the service-protocol. Recent experience in the telecommunications industry has demonstrated that regulation tends to lag behind advances in technology, thereby rendering licensing agreements obsolete after a few years. When new unforeseen service-offerings become possible outside the framework of the monopoly, their introduction either by the incumbent or by a potential competitor often gives rise to legal questions. Moreover, advances in technology are also likely to pose issues of interconnection and, therefore, must be similarly addressed within

²⁷ Eade, Philip, "Telecom Leads the Way" in *Euromoney*, N335, March, 1997

²⁸ Government of South Africa, The Telecommunications Act, 1996

the regulatory framework prior to the issuing of the concession or preferably be specified in the license or concession agreement.

The issues of price cartels among suppliers and collusion among competitors need to be addressed specifically and transparently through the disclosure requirement. Irrespective of verbal agreements, the primary objective of a business is to maximize profits, wherever, however, whenever, and if this can be achieved by price-fixing or anti-competitive practices, such means must be presumed viable options to the profit-seeking-private-sector participant. If the rules of the game are not explicit, then it must be assumed that the investor will utilize any and all legal means to maximize profits. The Southeast Asian experience stands in evidence, and no amount of ex-post moral consternation can substitute for clearly defined ex-ante rules and regulations.

With respect to the procurement procedures of the vertically-integrated private monopoly, it should be similarly expected that transfer pricing will be pursued where possible. Vertically-integrated private companies are inward-oriented necessarily. It is to be expected that unless explicitly prohibited or controlled by predetermined rules, the private monopoly or the management company as a member of a vertically-integrated enterprise will resort to incestuous transactions. Hence, explicit regulation to control such transactions should be included in the rules of the game. To ensure compliance, disclosure requirements that speak to affiliated transactions, procurement procedures, and costing methodology could be included as substantive conditions in the concession agreement. Moreover, non-compliance with such conditions could be made grounds for cancellation of the license or concession.

Whilst the above might be interpreted as overly restrictive, especially when the objective is to attract FDI, it is what regulation is all about. It was also the basis for private participation in the infrastructure sectors in industrialized countries. In addition, from a developing country perspective, explicit rules of the games serve to dissuade “casino capitalism” from permeating the provision of infrastructure services. But perhaps more importantly, clearly defined the rules of the game will more than likely serve to attract foreign investors looking for long-term opportunities in developing countries. And this is because the more information risk-averse investors receive within an orderly and practical regulatory framework, the better informed will be their assessments of the commercial risks and attendant rewards. Moreover, the establishment of such rules and regulations helps to make it possible for the sector to be rated for loan-finance, thereby opening up yet another source of investment capital to the sector.

Having determined the rules of the game, the issues remaining to be resolved center around the questions of who will be responsible for their implementation, how will such rules be administered and within what political and legal frameworks.

1.4.2 Single-industry versus Multi-industry Regulatory Institutions

Once the rules of the game have been understood and established, the choice as to the form the regulatory institution becomes a matter of economics and available competency. In the US, regulatory institutions are either single-industry or multi-industry based on the level of regulation. At the Federal government level, a single-industry approach has been taken because of size and the need for consistency in regulatory decisions at a national level. For example, the Federal Communications Commission

regulates the telecommunications sector, while the Federal Energy Regulatory Commission regulates the power sector. However, regulation at the state level takes the form of a multi-sector institution. The state regulatory agency is usually comprised of the various sector-divisions: telecommunications, electricity, water etc.

In the UK, single sector regulatory institution has been adopted for reason of consistency. Thus there is a regulatory agency for telecommunications (Office for Telecommunications - OFTEL) under a Director General for Telecommunications; an agency for gas (Office for Gas Supply - Ofgas) under the Director General for Gas Supply (DGGS); and an agency for water (Office of Water Services - OFWAT) under the Director General for Water Services (DGWS). Electricity is also controlled by specialist institutions, but at a regional level.

With respect to Africa, the choice between multi-industry or a single-industry regulatory institution has been posed as an issue for African governments for reasons varying from effective regulatory decisions to the absence of the required technical skills, the size of the industry, and the cost of regulation. Single-industry approach certainly provides for specialist experience and expertise in a particular industry which, as the argument goes, translates into more effective regulatory decisions. But, these are the attributes of a regulatory institution with full-time regulators and specialist staff who are expected to address issues of investment, rate-structures, licensing abuses, access, performance standards, and customers services on a daily basis, and whose availability and competency are not constraints to an effective process.

On the other hand, it could be argued that in the case of African countries it is not cost effective to have as many regulatory agencies as there are utility-sectors with issues in common, as many have, requiring a consistent approach in the interest of private-sector development and equity. Indeed, where the primary function of the regulatory institution is to address issues of income distribution, empowerment, quality of service, and cost recovery, the need for consistency and universality in regulatory approaches and decisions is paramount. Moreover, given the relative shortage of skilled-personnel and scarce resources in Africa, the opportunity for capacity-building through cross-training is forgone with a single-industry approach.

Regulatory agencies moreover should not be looked upon as ends in themselves but rather as means to a given end. With the emphasis on creating an open-market economy and the rapid advances in technology, the market should be viewed as the primary disciplinary mechanism, with regulation as a guiding and facilitating mechanism with the flexibility to become less intrusive as competition within the sector is increased and social objectives are achieved. Hence, approaches that were adopted a decade ago by some countries are not necessarily prescriptions for the future, not even in Africa.

This is not to say that there is no need for effective regulation in African countries. On the contrary, establishing the rules of the game is one of the functions of an effective regulatory agency in countries privatizing infrastructure services for the first time. But, the concentration of a country's limited regulatory capacity in a single regulatory body for industries with common characteristics is likely to produce more effective and consistent regulatory decisions in the long run. What is more, the regulatory decisions from a single source provide investors with a better reading on the government's position on issues of concern to the private investor at a time when sending the "right signals" is an important determinant of private capital flows.

With respect to regulation in African countries, with most of the regulatory reforms occurring in the telecommunications sector, African countries largely have not had to make the choice between single-industry and multi-industry regulatory agency. Whilst the majority have established a single-industry framework to regulate the activities in the telecommunications industry, recent evidence indicate that multi-industry approach to regulation is being adopted by some countries. This is especially the case where reform of the infrastructure sector is broad-based, encompassing services other than telecommunications and where the market is made the primary disciplinary mechanism.

A discernible trend in regulation in Africa is for Anglophone countries to adopt the UK approach. For example, South Africa has patterned SATRA, its regulatory institution for telecommunications, after the UK's OFTEL.²⁹ The regulatory institutions for the regulation of telecommunications in Mauritius and Botswana, have been established with assistance from the RTR program of the USAID and therefore mirror a US approach to regulation. On the other hand, by licensing a second network operator for the provision of basic telecommunications services, Ghana and Uganda have essentially taken a less doctrinaire approach to infrastructure regulation, preferring to let the market be the arbiter. For these countries, the process is an evolving one and is clearly influenced by both endogenous and exogenous factors.

Whatever the approach, the type of regulatory institution adopted will be determined by the service-characteristics of the provider. The private monopoly provider requires a set of rules by which to operate which will be different from those of the provider in a competitive environment. With respect to the monopoly provider, the regulatory rules and procedures as defined in the statute will apply, or more usually be determined by the regulatory agency within the guidelines embodied in the statute because of the complexity of the process. Where the service is provided under a concession agreement, however, the key elements of the regulatory framework are usually defined in the concession contract or operating license. For example, cellular mobile telephone operating licenses issued by several African countries clearly specified the level of competition (by designating areas to be serviced), investment obligations, performance targets, tariff regimes, public-service obligations, and interconnection rights of the licensee. Regulation becomes a matter of monitoring and enforcing the terms of these essentially transaction-specific agreements. The same is generally true for concession contracts which embody a regulatory framework as an integral part of the concession arrangement. This is especially true for most concession contracts awarded for the supply of water, electricity, and railway services in Francophone countries which have adopted the French model of concessions.

1. 4. 3 Choice of Regulators

In many ways, the arguments advanced for a single-industry institution can be used to support a single regulator as opposed to a board or multi-commissioner structure. A single regulator is often regarded as an all powerful individual, capable of making decisions reasonably quickly and decisively. But such a regulator is also capable of

²⁹ Ibid.

abusing his or her authority and thus requires a person of integrity and a capacity for judicious decisions. He, she must also be beyond political reach and must be fully transparent in carrying out the duties and responsibilities mandated in the authorizing statute. The authority given to the regulator must be clear, and opportunity for appeal against any regulatory decision should be clearly provided for within the authorizing statute. The danger of having a politically motivated regulatory decision is greater with a single regulator than with a multi-commissioner regulatory institution.

The drawbacks of having a single regulator are overcome by having a multi-commissioner regulatory agency as is the case in the US. However, the choice of regulators in the US tended to be based on technical expertise in a highly complex framework of rate-of-return regulation. Such a framework has evolved over several decades of regulation in the US, and while it served its original purpose of addressing access to services, performance standards, and income distribution issues, the process has become cumbersome, self-perpetuating, and stifling to economic growth. As such, the established US rate-of-return approach to regulation should be viewed as necessarily idiosyncratic and, as a prescription for African countries, should be tempered with eclecticism. Where it has been adopted in developing countries, the process overwhelms local capacity and add to costs unnecessarily. Evidence the case of Guyana where regulatory decisions are determined through the process of expensive foreign experts arguing over foreign concepts with little relevance to country-specific needs and conditions.

The above said, a multi-commissioner approach, in addition to incorporating technical expertise into the decision-making process, could allow for community concerns to inform the process, especially where equity and universal access are major objectives of regulatory reform. Additionally, cross-fertilization of ideas, capacity building, and human empowerment are facilitated by adopting a multi-industry-commissioner approach. The major concern, however, is in finding persons who are not only technically qualified but also are dispassionate and beyond political and economic suasion. Regulators, after all, are usually appointed by politicians and are the focus of politicians and the firms they regulate. Politicians receiving support from the industry, be it telecommunications, electric power or transport, will seek to influence regulatory decisions.

Regulators concerned about their economic welfare and stature are equally predisposed to influences from both politician and industry. Agency staff whose responsibilities include advising regulators, negotiating settlements with the firm, or conducting on-site audits, are equally susceptible to external influences. Their susceptibility is greater because they can be pressured from both ends. Moreover, despite the notion of a “cooling-off period,” regulatory agency staff with access to regulators are frequently employed by service providers either in staff positions or as consultants. Indeed, the closed and almost incestuous relationships that exist in the telecommunications industry in the US facilitates just such crossovers. Hence regulatory capture is more than just a theoretical concern.

1. 4. 4 Enforcing Regulatory Rules

Some of the criteria for creating the rules and establishing the administrative institution have been examined above. But rules are useless without mechanisms to enforce them. Such mechanisms are embodied in the authority of the agency, the appeal process, and in the judicial support established within a credible legal framework, all of which separately or collectively raise the issue of independence of the agency. But independence in the regulatory context is relative. The agency has to be created and be funded either by the government or by fees assessed on the enterprise.

The statute creating the agency gives status to the agency. It can be made free of political control in its decision-making process, with the power to bind, or at the other extreme it can be required to refer to a government ministry for prior approval. In between the two extremes there are regulatory and legal checks and balances which can be incorporated in the process. An agency that has to have its decisions vetted or approved by a government minister lacks the necessary quality of independence, and enforcing the rules thus becomes a matter for political expediency, conditions for “crony-capitalism” and rent-seeking at all levels.

On the other hand, it is generally accepted that an agency which is free to make decisions within the policy guidelines given to it by statute is likely to be more effective in achieving stated policy objectives. This is especially so when the regulator is held accountable to standards set by law. An independent regulatory body with responsibility and authority to interpret and implement policies developed by the government through the political process signals the existence of a democratic framework by which credible governmental commitments to consumers and investors are arrived. The test is the extent to which interference by the government with the process outside of the established political and legal framework is allowed. In this regard, it is worth noting that the Zimbabwean government lost its court battle in seeking to cancel licenses issued to cellular telephone operators.³⁰

An integral part of an effective regulatory process is to ensure that policies and laws are interpreted fairly and equitably, indeed in the spirit of the legislation and not narrowly for the benefit of one group or another. This is achieved only if the process is transparent, with full compliance by all parties with respect to disclosure and availability of information. Transparency on the part of the regulatory agency requires that fair procedures be developed and applied openly on a consistent basis. It also requires explanation of the reasons behind every regulatory decision. Equally important, regulatory decisions must have the full force of law, with penalties attached for non-compliance. However, the parties should have the right to challenge the decisions of the agency either through an appeals mechanism authorized by the Act, or through the legal system.

A major influence on the design of the regulatory institution arises from the need to protect the entity's rights to recover its operating costs and capital invested in providing the service and for the consumer to be protected from the abuse of monopoly power. It is mainly for cost-recovery reasons that investors prefer the pricing system be determined and authorized by the statute in an unproven regulatory environment. It is also mainly for consumer protection that price-cap indexed to inflation is a preferred pricing methodology in most countries. Price cap regulation provides incentives to reduce

³⁰ Business Africa, November 1-15, 1995

costs through efficiency gains and thus promotes efficient use of resources. However, price-cap regulation has the drawback of increasing regulatory risk, with the possible capping of investment as a consequence because of the pressure to keep profits within reasonable limits. But the limitations of price-cap regulation can largely be overcome by a carefully design system of regulatory review. Regulation thus principally becomes one of review and enforcement, without the trappings of attendant to rate-of-return regulation.

An overarching influence to regulation in Africa is the modality of privatization. Given the dominance of concessions, BOTs, and licenses as modalities of privatization in infrastructure in most African countries, legally-enforceable rights and obligations clearly defined in the operating licenses, concession and BOT agreements, would limit the need for an elaborate regulatory system thereby avoiding and the pitfalls of price and entry regulation. Also, by imputing a judicial rather than an administrative approach to the regulatory process, the private investor is given some protection against adverse shifts in policy and relies less on the notion of regulatory independence.

1.5 Tailoring Reform

As discussed above, implementing reform in developing countries are constrained by a myriad of factors, some exogenous and therefore beyond the control of the developing country's government. Others are structural and can only be overcome as and when some of the reform measures implemented over time take effect.

In recent years the process has been favorably impacted by the increased support and cooperation from multilateral institutions and bilateral donor-creditor countries who have come to realize that divestiture of infrastructure is further constrained by low per capita income which adversely impacts the prospects for cost recovery. Indeed, whilst there is evidence of private participation in the provision of certain infrastructure services in low-income countries, the issues of risk and cost recovery from compensatory user-fees are still not fully resolved in the minds of investors, especially international investors who are generally fully informed in terms of relative risk-reward relationships in the global investment environment.

Whilst one is wont to think that constraints are in large measure internal to the country, the experiences of the Eastern European countries with the privatization process would suggest that international private investors are not beyond bargain-hunting, and often seek opportunities from reform mechanisms promulgated by multilateral institutions. In contrast, the recent successful divestiture of TELEBRAS by the Brazilian government speaks to the virtue of tailoring reforms to individual country conditions, and to patience. Indeed, based on the final sale price of US\$18.85 billion,³¹ - the expected price was US\$11.5 billion - it was clearly a matter of investors seeking out the investment opportunity and not the other way around. But to creditor-countries hoping to effect an economic turnaround by prescribing divestiture as the preferred reform mechanism before being morally obliged to forgive debts under HIPC and other such arrangements, the phased-in approach to privatization may not be fully supported.

³¹ Peter Fritsch, "Brazil's Telebras Sell-Off Is a Ringing Success" in Wall Street Journal, July 30, 1998, p. A13.

Furthermore, it is also a question of how long can African governments keep their nationals from participating in the growth of the world economy. Hence a compromise approach to the reform in infrastructure appears to be the answer.

Such a compromise can be found within the structural make-up of the industry given the advancement in technology which can accommodate both state-ownership and private participation. Technological advances have made previously considered natural monopolies open to private participation either wholly or in part. For example, because of wireless technology, segments of the telecommunications industry have been made contestable and thus open to private participation without the state having to relinquish total control of the system. Advances in meter-reading technology have made it possible for independent power producers (IPPs) to access the customer-base of the distribution network operator.

Not only have African governments shown a willingness to embrace private participation under these evolving conditions as depicted in the following tables, but equally important private participation, especially FDI, has been on the basis of opportunities for profits and not in response to a government's desperation to divest because of external pressures. Once there is mutuality between government and private investor, the likelihood for successful privatization becomes greater. This section therefore examines how reforms have been tailored to accommodate private participation in the sectors of telecommunications, electricity, water, railways, ports, and airports in Africa, with particular reference to the challenges of reform, scope for competition, and the regulatory framework adopted.

1. 5. 1 Telecommunications

(i) Challenges

If African countries were looking for an opportunity to demonstrate their commitment to privatizing their infrastructure sectors, they could not find a better vehicle than the telecommunications sector. Advances in technology have made it possible to take a twofold approach to reforming the sector, providing the flexibility of phasing-in the process in keeping with institutional capacity, political tolerance, and the absorptive capacity of domestic financial markets. The first approach of de-monopolization permits new private investment in the form of build, operate and own (BOO). The second approach, divestiture, allows for the acquisition of a strategic partner coupled with a management contract, public offer of shares, or a combination of both.

Apart from the initial management contract approach that typified earlier privatization of the sector - Botswana, Benin, and Guinea to name a few - privatization of the sector began on the basis of private investment in the provision of new services, cellular mobile telephone services, as evidenced by the South African experience. Under such an arrangement, private-sector investors are required to finance the construction of the facilities and operate them either in an environment of competition with others or, more usually, in conformity with the rights and obligations specified in their operating licenses. With license to interconnect to the national network, the cellular operator offers an enhanced service to those who are willing to pay for such a service.

Moreover, because access to telecommunications services can be increased by the licensing of private cellular providers without relinquishing control of the facilities-based national network or without additional public investment, many African countries have resorted to this method as a first step to privatizing the sector. In South Africa, for example, the process began as early as 1991 with the licensing of two wireless operators, Vodacom and Mobile Telephone Network (MTN). Several other African countries have since adopted this model of encouraging private participation in the sector as revealed in Table 1. Indeed, the number of countries that have privatized on this basis has increased in recent years and has provided the conceptual framework for privatization in the other infrastructure sectors.

Not included in Table 1, are those countries which are undergoing restructuring with intention to privatize in the future. These include: Algeria, Chad, Lesotho, Mali, Sierra Leone, Swaziland, and Togo. Others, such as Nigeria, Tanzania, and Zimbabwe are either seeking strategic investors or are planning to make public offering of shares in the very near future. The significance of seeking a strategic investor is that with increased private participation in the facilities-based network, the less reliant will be the entity on government's subvention and the more competitive it is likely to become in terms of resource allocation.

Table 1. Private Participation in African Telecommunications Sector

Management Contract	Lease	Concessions/ BOT	De-monopolize/ BOO	Divestiture
Benin		Guinea-Bissau	Botswana	Cape Verde
Botswana			Burundi	Ghana
Ghana			Cameroon	Senegal
Guinea			Côte d'Ivoire	South Africa
Madagascar			Dem. Rep. Congo	Sudan
Seychelles			Eritrea	Uganda
			Gabon	
			Ghana	
			Guinea	
			Kenya	
			Madagascar	
			Malawi	
			Mauritius	
			Morocco	
			Mozambique	
			Namibia	
			Nigeria	
			Senegal	
			Tanzania	
			Zambia	
			Zimbabwe	

Source: M. Kerf & W. Smith, 1996; Economic Intelligence Unit (various years); World Bank, Annual Report, 1997. Bold = post 1995.

Whilst in many cases the small number of countries opting for divestiture reflects national policy, such as waiting for the appropriate time to divest, it also reflects investors' assessment of risk with respect to investment in the sector or indeed in the country. Hence, the challenge to African governments continues to be one of fully committing to the concept of private-sector led growth or alternatively, of attracting private participation in the facilities-based national network. In either case, policy measures designed to address both would not go amiss. Indeed, the window of opportunity to do so is beginning to narrow and might well accelerate in the near future.

With investor interest in global telecommunications at historical highs, African governments have the opportunity to capitalize on this interest. But they can do so only by resolving crucial policy issues surrounding the sector. They need to resolve in the first place the issue of the scope of competition to be allowed in the industry, and in the second, the regulatory regime in light of the discussion in the previous section. They need also to bear in mind the extent to which social obligations can be imposed as a condition for participation. There is a delicate balance between imposing universal access requirements on the one hand and limiting the potential for profits on the other. Beyond the break-even point private participation will not be forthcoming. The private investor knows this; the context is global, with comparative cost idiosyncratic only to a point. It is for the country-government to recognize this and to establish a margin for meaningful negotiations between the parties. The onus is on the country-government in a global economy; the international investor merely moves on to the next opportunity. It is the nature of global capitalism.

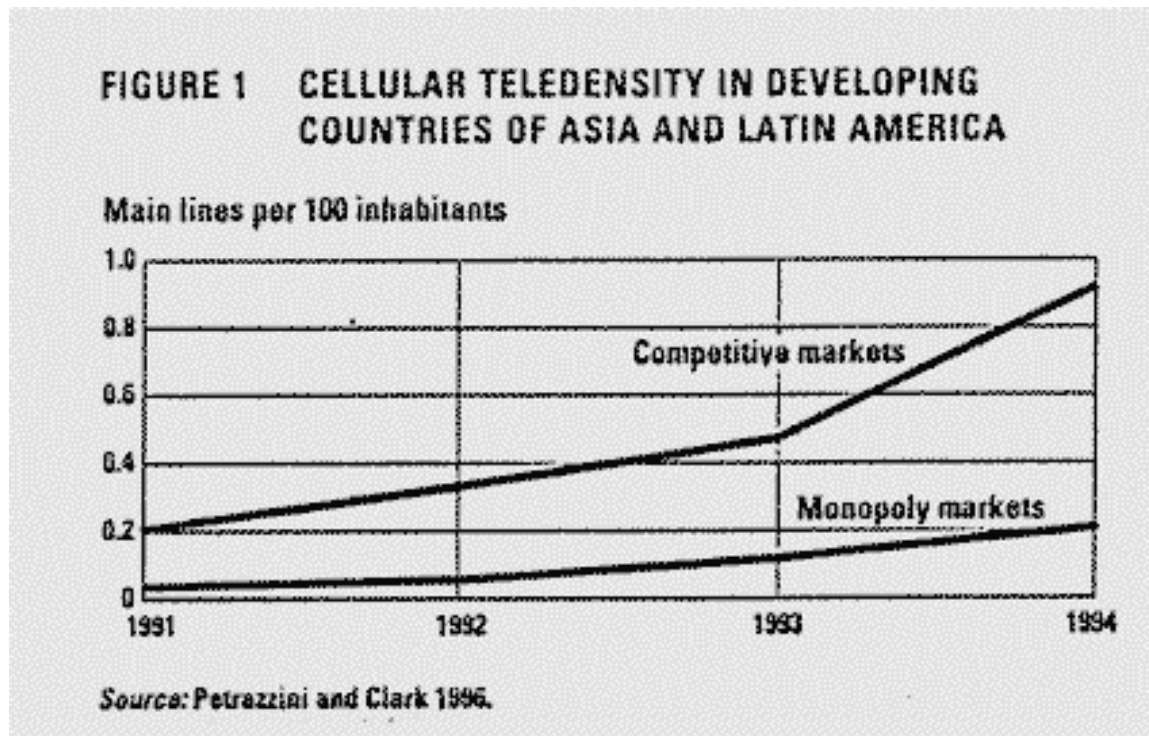
(ii) Competition

Although there has been an increase in privatization in the telecommunications sector as shown above, most African countries have yet to address the issue of privatizing the sector by way of divestiture of the national network or the introduction of competition therein. De-monopolization has been mainly focused in the segments of the market which have evolved around the basic local-loop technology, that is, cellular telephony and value-added services. And even then, there is some reluctance to allow competition into the sector as evidenced by the Zimbabwe government's attempt to restrict private access to the national network. Indeed, a closer examination of the characteristics of de-monopolization reveals an inordinately cautious approach to the process and one that incorporates social objectives as the principal features.

Where cellular operators have been licensed, these have mainly been on the basis of expanding access to telecommunications services rather than on the basis of promoting competition within the sector. For example, the licensing by the Tanzania Telecommunications Commission of two cellular service providers in each of the four regions was designed to expand telecommunications services in designated areas with a limited amount of competition. The monopoly facilities-based network operator, Tanzania Telecommunications Corporation Limited (TTCL) was licensed in the northern, central and southern regions. Mobitel, one of the two licensed private operators, was licensed in the coastal region, and Tritel, the second private operator, in the coastal and northern regions. Moreover, Mobitel is partly owned by TTCL, hence TTCL has not been licensed to operate in the coastal region. On the other hand, the two cellular licenses

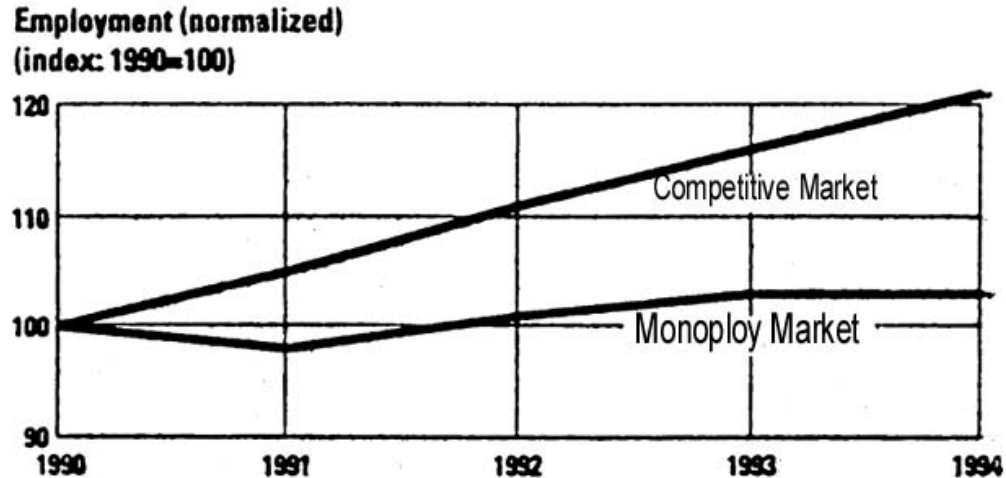
issued by the Botswana Telecommunications Authority (BTA) permitted competition nationally, once service obligations have been met. Indeed, the Botswana licenses arguably might be construed as licenses to compete with the facilities-based national network operator. In the main, however, most countries issuing cellular licenses do so for specific service-areas.

But the scope for competition extends beyond the current practice of allowing private participation only in the cellular and enhanced-services segments of the industry based on redistribution and other social considerations. African capitalism is still in the making, and while the desire to indigenize the process is strong, experiences in Asia and Latin America suggest that teledensity is more likely to increase in competitive markets than in monopoly markets, as shown in Figure 1 which reflects the combined experiences of Asia and Latin America.³² In addition, as shown in Figure 2, employment in the industry is likely to increase where there is competition. Thus it could be argued that by restricting competition in the sector, the government is limiting the opportunities for employment in the country.



³² Petrazzini, Ben A., "Competition and Technology Change in Telecoms- Implications for Universal Service, Employment, and Regulation" in Public Policy for the Privatesector, (Washington, DC: WB), 1997, p. 51

FIGURE 2 TELECOM EMPLOYMENT IN DEVELOPING COUNTRIES OF ASIA AND LATIN AMERICA



Source: ITU:1995

Beyond the conventional arguments in support of liberalization of the sector, the dynamics of the industry resulting from the technology revolution is fast moving the industry beyond the regulatory control of the nation-state. Indeed, competition to the domestic monopoly operator is rapidly evolving into various forms which are becoming more difficult to monitor and to block as a result of technological innovations, even in those African countries attempting to control it. For example, the widespread use of the Internet and related technology have made it possible to have voice communications among computer-users connected on the Internet. In addition to the Internet, there are other modes of competition that have evolved outside the regulatory framework which directly impact the revenue-generating capacity of the domestic telecommunications operators. Moreover, an over-regulated domestic operator creates opportunities for “callback operators” to enter the market. Cable television providers are likely competitors to the domestic network operator as are data transmission networks using satellite technology. Because the telecommunications industry is fast becoming open to competition from nontraditional sources, inadvertently limiting the network operator in its bid to become efficient may indeed be the demise of the facilities-based national network operator.

More recently, Ghana and Uganda have both explicitly licensed second national network operators to compete with the incumbent national network operator. The Cameroon government is contemplating issuing a second mobile license with access to the international gateway, whilst the Nigeria government is contemplating licensing a second network operator to fill the service-void created by the inability of the national network operator, Nigeria Telecommunications Limited (NITEL), to respond to service

demands. For their part, the governments of these countries have accepted the inevitability of competition in the industry. But the data in Table 1 is compelling.

(iii) Effective Regulation

As a follow-on to the discussion in section 1.3 in which the regulatory process has been examined in general terms, this sub-section examines the African approach to regulation in the telecommunications sectors in terms of the model offered by Paul Joskow.³³ It should be recognized that the sample is limited because of the small number of countries that have taken liberalization of the sector beyond de-monopolization. But even so, the licensing of cellular operators in several countries provides a reasonably good basis for discussion of the issues.

The position taken in this paper is that because of the greater potential for regulatory capture by the industry, regulation is second best and that regulation for the sake of supporting the notion of regulation is detrimental to the efficient development of the industry being regulated, especially the telecommunications industry for reasons discussed above. It should be further recognized that regulation must necessarily be context-based if it is to be effective. Hence an effective regulatory framework is one that addresses country-specific issues of market failure where these cannot be effectively addressed elsewhere.

With respect to African telecommunications services, and indeed infrastructure services generally, there are social issues of universal service, universal access, ability-to-pay, and the like, long forgotten in the US and other industrialized countries. Consequently, in attempting to generalize current US regulatory approach to developing countries, one is wont to forget that the US approach to addressing market failure in providing telecommunications and utility services was a combination of rate-of-return regulation and direct subsidies in the form of low-interest loans (as much as 95 percent of capitalization in many cases) to foster universal service. Moreover, since entire systems were built from low-interest government financing, regulation was duplicated in many respects. For example, in addition to special reporting requirements, equipment, construction, and service standards were imposed and monitored by the specialist Federal government department which was set up for this purpose. Thus the idea of a universal service fund, which Mauritius and South Africa have adopted, is a relatively recent phenomenon in terms of US regulatory policy and is the result of the deregulation and re-regulation process of the 1980s.

Additionally, cellular technology introduced in the US in 1983 and the advancement of information technology since then have combined to render the esoteric regulatory approach of the US obsolete. Moreover, rate-of-return regulation presupposes stable economic conditions and a high degree of efficiency within the industry. In other words, rate-of-return regulation works best when cost of service and cost of capital move within a narrow range. These conditions could hardly be attributed to African economies in which fluctuations in interest rates and inflation are wide ranging and the room for efficiency improvements extensive. But more importantly, because of the nature of the

³³ Paul Joskow, 10th ABCDE Conference Paper: Regulatory Priorities for Reforming Infrastructure Sectors in Developing Countries, (Washington, DC; WB), 1998

technology revolution, African countries have the unique opportunity to leap-frog regulatory orthodoxy. Hence, a licensing or concession approach similar to that adopted by the UK, incorporating a regulatory framework which has done much to limit regulation to one of monitoring and enforcement is of greater relevance to African countries than a rate-of-return regime.

As demonstrated by the UK experience, the license could be specific on issues of: **(i) terms**: duration, revocation, licensing fees; **(ii) rights**: service area, services authorized, rights of access for the laying of cable and the setting up of microwave towers, due process rights, rights to cost recovery as specified, billing and collection rights including enforcement, interconnection rights, and others negotiated by the licensee; **(iii) duties**: quality of service obligations, public service obligations, investment obligations, cost controls, maintenance of proper accounting records, and the obligation for publication of information; and **(iv) interconnection and behavioral matters**: terms of interconnection, competitive behavior with other participants in the industry, and procedures to be followed. For matters made fluid by changing technology or not specifically addressed, the license could provide the framework for addressing them.

Returning to the African experience, the South African approach to licensing operators speaks to the harnessing of technology for achieving social objectives once thought achievable only through extensive regulation and to the establishment of a minimalist system of regulation. For example, in addition to service-conditions, licenses for cellular services were issued based on conditions that served the Reconstruction and Development Programme (RDP). Specifically, holders were required to “contribute to the provision of community services, job creation, phones for under-served areas and ...making shareholdings available to black groups.”³⁴ One such community service requirement was for Vodacom to provide 22,000 mobile telephones to previously under-served areas over a five-year period. MTN’s commitment was for the installation of 7,500 pay-phones over the same period. The acquisition of a strategic investor for the network operator also embodied service and redistribution obligations discussed above. At the same time, the adoption and inclusion of a price-cap approach to tariff-setting addressed the concern for cost recovery in a definitive and legally enforceable manner.

Other African countries listed in Table 1, have adopted a similar approach, with Côte d’Ivoire, Senegal, Ghana, and Uganda who have thus far adopted divestment as a reform methodology, utilizing the concession or licensing process to incorporate a regulatory framework. Additionally, as noted above both Ghana and Uganda have taken the process a stage further by the licensing a second network operator, thereby introducing competition for the market for basic service and thus reducing the need for an exhaustive system of regulation.

One of the exceptions to the licensing/concession approach is Mauritius, reflecting the source of its external technical assistance. For example, unlike mainland African countries, Mauritius does not appear to have a social agenda tied to the reform of the industry. With twenty mainlines for every 100 persons, it has one of the highest tele-density ratios in the region and, therefore, universal access is clearly not a criterion for

³⁴ Government of South Africa. Telecommunications Green Paper, July 1995.

licensing. Moreover, the Telecommunications Act, 1998³⁵ provides for the setting up of a universal service fund (USF) and requires contributions from licensees in typical US fashion. By setting-up the USF to be funded by contributions from licensees, there should be no need for cross-subsidization. Access to the network is also embodied as a provision in the 1998 Act. For example, Section 16 (2) of the Act requires every network operator to grant equal access to licensees, both as to price and conditions. The Act also requires consumers to pay a fair price for service within the framework of a flexible tariff regime. Moreover, Section 17 (7) of the 1998 Act prohibits tariffs designed to restrict competition or to favor any particular form of connectivity.

Based on the regulatory issues being raised in the developed countries, especially in the US and the UK, anti-competitive behavior and interconnection obligations appear to be surfacing as the main issues for regulatory oversight in a mainly competitive environment. For example, recent complaints filed against the network operator in California include delaying the interconnection process by restricting capacity-availability, and increasing the cost of interconnection by requiring the construction of expensive equipment housing in the central office exchange. In the UK, Oftel is increasing its ability to deal with similar complaints of anti-competitive behavior. Other sources of complaints center around interfacing requirement of the network operator which could be limiting if not standardized.

1.5.2 Electricity

(i) Challenge

Reform in the electricity sector has mainly been by way of management contract as the first choice followed by leases. This is because in the first instance, many African governments are still not convinced that cost-covering tariffs are politically tenable given the low GDP per capita in the region, the widespread use of wood and coal as sources of energy, high unemployment, and the generally overbuilt but dilapidated conditions of the sector. Secondly, given the recent experiences with respect to investment in Africa, investors are not willing to commit to large sunk investment without assurances of recovery. But, with close to 70 percent of the continent's energy currently derived from wood and coal, environmental degradation may be irreversible, as is largely the case in Madagascar where deforestation has been allowed to go unchecked for decades.

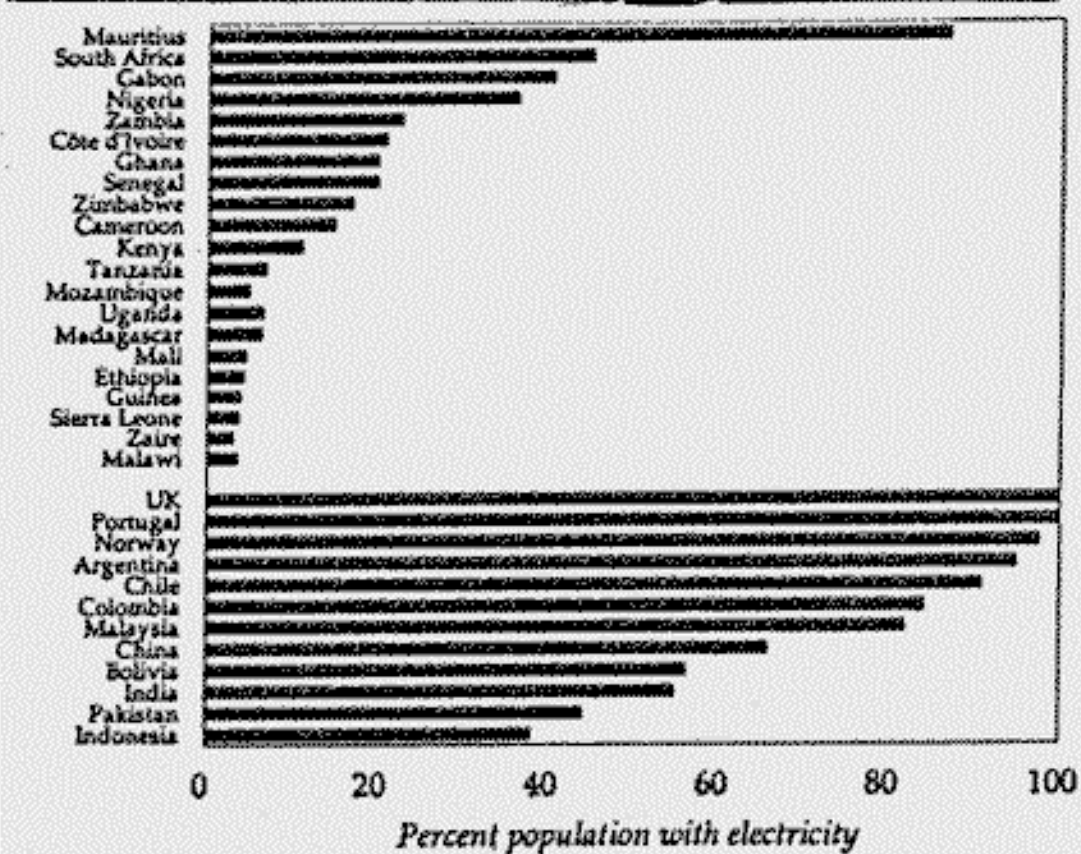
For Africa as a whole, environmental degradation cannot continue at its present rate and sustainable economic development is possible only on the basis of a sustainable and renewable source of energy. With electricity providing an estimated 10 percent of power currently, investment in the sector is a national imperative for most African countries. Hence, whereas, the challenge faced by the Transition economies of Eastern Europe was one of setting cost-covering tariffs and enforcing payments, the major challenge to African governments is to effect a shift away from wood and coal as the primary source of power. This is made clearer by the data in Figure 3 which shows the low level of electricity coverage in Africa.³⁶ Given the low level of electricity coverage

³⁵ White Paper, "Fostering the Info-Communications Society" 19/12/97.

³⁶ Covarrubias, Alvaro J., Lending for Electric Power in Sub-Saharan Africa, (Washington, DC: IBRD/WB), 1996, p.49

in Africa, African countries has the opportunity to effect a “paradigm shift” to renewable sources of energy. The most effective way of achieving such a shift is to make electricity from renewable energy sources the primary source of power.

Figure 3. Electricity Coverage in Africa in Comparison with Other Countries



Source: World Bank, Industry and Energy Department.

The second and perhaps more immediate challenge is not dissimilar to that of the Transition economies. The production and diffusion of electricity in quantities necessary to effect a shift away from wood and coal cannot be achieved from public investment alone nor indeed from multilateral or bilateral donor-country loans. Private participation in the sector is an absolute essential. But given the requirement for private sunk investment of size, implementation of full cost-covering tariffs for the sector which are enforceable within a credible regulatory or legal framework is no longer an option but a requirement.

Not unaware of the challenge, many African countries have adopted reform of the sector as a national policy and have solicited the assistance of the WB and other multilateral and bilateral funding agencies. Hence, since around the mid 1990s private equity participation in power plant projects has been with the assistance of the IFC as a means of setting the tone for other private-sector led schemes. For example, the IFC approved a US\$36 million financing package for a private power plant in Senegal. In the Francophone countries - Côte d'Ivoire and Gabon, for example - regulatory reform through affermage agreements or BOT concessions are being implemented at a faster pace. In the Anglophone countries, BOT and de-monopolization are beginning to be pursued with the assistance of the WB, the extent to which is revealed in Table 2.

Table 2. Private Participation in African Electricity Sector

Management Contract	Lease	Concessions/ BOT	De-monopolize/ BOO	Divestiture
Gambia		Côte d'Ivoire	Kenya	Gabon
Ghana		Guinea	Mozambique	
Guinea			Morocco	
Guinea-Bissau			Tunisia	
Mali			Uganda	
Rwanda		Zimbabwe		
Sierra Leone				

Source: M. Kerf & W. Smith, 1996; Economic Intelligence Unit (various years); World Bank, Annual Report, 1997. Bold = post 1995.

Beyond economic regulation, there is another form of regulation, referred to as social regulation, which increasingly has been occupying the attention of governments of OECD countries since about a decade ago, but which has been largely ignored in context of regulatory reform in developing countries until recently. It is a form of regulation that mostly impact the energy sector and will likely gain greater significance for developing countries' governments in the years ahead. Because of this likelihood, a brief discussion is warranted in context of the electricity sector and will be examined in a sub-section on Social Regulation.

(ii) Scope for Competition

Competition in the electricity sector in African countries is not on the same scale as in the telecommunications sector, and the purchase of power from private generators in a few cases hardly qualifies as competition for access to the national grid. For competition to be present in the market, the services need to be unbundled as is occurring in the developed countries.

In the case of the US, which can be regarded as the benchmark for deregulating the industry, public suppliers of electricity were obliged to purchase electricity produced from renewable sources by IPPs since 1978 with the passage of PURPA. Environmental concerns and activism have since pushed for environmentally sustainable sources of

power, raising social regulation of the industry to a national level. As a consequence, different methods of power have evolved since 1978, and in May 1998 the electric power industry in California was deregulated to permit consumers to exercise their choice with respect to the source of their electric power. Thus, the monopoly status of Pacific Gas and Electric Company (PG&E) as an electric power supplier has been taken away by allowing IPPs to directly solicit retail consumers on the basis of their environmental predisposition as much as on cost. Thus, the extent to which electricity services could be unbundled and accommodation made for social regulation, public obligations, and transition to competition, are revealed in the detailed billing provided by PG&E in California.

In addition to being the distribution network operator, PG&E also generates electricity which it must sell to the Power Exchange like all other power producers. Thus it must compete with IPPs for customers who also sell to the Power Exchange on the basis of the demand by the customers. So as to ensure that consumers have a clear understanding of the competitive elements and associated costs, the costs for the service have been unbundled. Currently, PG&E has seven components to its billing format: electric energy charge; transmission; distribution; public purpose programs; nuclear decommissioning; competition transition charge; and trust transfer amount.

The Electric Energy Charge is a pass-through charge and is the average cost of buying electricity from the power exchange based on the mix of demand from PG&E customers on the utility's distribution network. This charge can be compared with the average charge from other power providers. It is this charge that reflects the consumer's choice of energy source. It also reflects the level of environmental consciousness and the willingness to pay to actualize environmental concerns.

The Transmission charge represents the cost of towers and high-voltage lines that transmit energy from the power plants to the distribution system. The utility provides maintenance and upgrades to the transmission system but the actual operation of it is under the control of a new Independent System Operator. Thus, connection to the grid is not controlled by the network operator and equal access is enforced by regulation at the national level by the Federal Energy Regulatory Commission. This separation paves the way for eventual competition for the market in a regulated environment.

Distribution charge represents the cost of operating the lower-voltage lines, poles, substations and transformers directly connected to the consumer and is owned and controlled by the monopoly network operator. The network operator is regulated both as to price and customer-related services by the California Public Utilities Commission (CPUC), state regulatory agency.

The remaining four components of the billing address issues of social obligations, social regulation, and cost equalization and are borne by all consumers on the PG&E network. The Public Purpose Programs charge is a form of regulatory subsidy for low-income rate-payer support and for research and development of energy efficiency programs. The charge for Nuclear Decommissioning is a fee to cover the cost of restoring nuclear plant sites to as near their original condition once they are shut down and is derived from social regulation. The fund is managed separately under the jurisdiction of the CPUC. The Competition Transition Charge (CTC) represents cost recovery of investment in power plants and power supply contracts previously included in rates authorized by the CPUC. It is an amortization arrangement which can be spread out or

accelerated, depending on economic conditions. The Trust Transfer Amount (TTA) charge reflects the cost of refinancing past debts, the cost of which has been included in rates that are now fixed. Because refinancing are usually at lower rates, the savings resulting from the refinancing is reflected as a discount to the total charges.

(iii) Tariffs

From the above discussion on PG&E, it is clearly evident that cost recovery has been finely defined by the unbundling of the charge. It is also evident that full cost recovery from rates is fully supported by the regulatory process. But equally evident is that the unbundling process allows a government to identify costs which are imposed on the utility by policy and which can be separated from actual cost of providing the service and be funded from taxation.

As regards African countries, as pointed out elsewhere in this paper, cost covering tariffs have the potential to not only stimulate private investment but also to encourage efficient management of the sector and to promote conservation in the use of electricity. But the pricing of electricity in developing countries has been made more complex by social considerations, especially in low-income African countries. In consequence, very few have incorporated tariff-setting rules in their laws. Very few yet have adhered to carefully-worded policy statements on the issue of tariffs. Part of the reason is the unreliability and insufficiency of data to allow an accurate determination of cost-covering rates.

Where tariffs have been set, they were often based on projections of financial requirements with very little current cost data. Where the process has achieved a level of sophistication, the long-run marginal cost (LRMC) has been a prominent feature in tariff settings. But even here, LRMC is affected by the built-in excess capacity and high debt costs of most of the systems. As a result, most countries' tariffs are often below what is considered necessary to recover actual operating costs, including investment costs. For example, compared with OECD countries where the average cost of electricity in 1991 was 13 cents kwh, the majority of African countries studied by the WB fell below this level, most were 7 cents and below.³⁷

Despite the difficulties experienced in pricing, some African countries have attempted to institute cost-covering tariffs. For example, the Mozambique experience evidence this trend. According to the Deputy Minister, the plan in August 1997 was to continue to raise the price per kwh over the next two years to a predetermined cost-covering price of \$US0.095. EDM, the electricity supplier, had been increasing its price over the last two years so as to recover normal operating costs. Levels of rates are employed and domestic users are subsidized by higher industrial rates. Domestic rates are also based on usage. However, the utility had been experiencing some opposition to further price increases. One such opposition came from the governor of Tete province who openly opposed the high cost of electricity supplied by the HCB dam and sought to purchase electricity from Malawi where it was cheaper. In December 1997, electricity

³⁷ Covarrubias, Alvaro J., Lending for Electric Power in Sub-Saharan Africa. (Washington, DC: IBRD/WB), 1996, p.44

supply to several district administrative offices and administrators homes were cut-off for non-payment of bills. The action had the support of the Prime Minister.

In the case of the electricity sector in Ghana, the issue of cost recovery from tariffs is less controversial. This is partly due to the structure of the sector. As regards operating costs and revenues, there are three discrete segments to the sector performance. The Volta River Authority (VRA) is the least-cost operator with 50 percent of its generation going directly to VALCO, the aluminum smelter. In 1989, VRA had a rate of return (ROR) of 9.62 percent. Next is Electricity Corporation of Ghana (ECG) with higher operating cost but nonetheless with a ROR of 6.19 percent in 1989. The majority of the losses comes from NED, the distributor in the northern region. Notwithstanding, system-wide, the Ghana electricity sector operates at a considerably lower cost per Mwh than its neighbors. For example, operating costs were US\$17/ Mwh in 1987 compared with Côte d'Ivoire's US\$230/Mwh in the same year.³⁸ In consequence, the average tariff in Ghana in 1987 was US\$28.4/Mwh compared with US\$160/Mwh in Côte d'Ivoire, the least-cost provider of Francophone West Africa. In February 1998, a 90 percent adjustment to electricity tariffs was effected under the newly created Public Utilities Regulatory Commission.³⁹

There are, however, approaches to rate-setting which could bypass the peculiarities attendant to the earlier mismanagement of the sector. In this regard, the PG&E billing approach is instructive. Overbuilt capacity and attendant cost could be separated for rate-making purposes and be borne by the government as a direct subsidy from taxes. The level of subsidy for low-income customers can be determined and be similarly funded. Excessive debt could be converted to government equity and be ascribed equity cost considerations in formulating tariffs. Alternatively, a refinancing at current interest rates could be the approach, with the government bearing the difference in debt cost. Moreover, with BOT schemes throughout the region, a robust methodology for determining operating cost and, therefore, cost-covering tariffs, will have been developed. Given this opportunity to adopt a benchmark-pricing methodology, there is no real reason why cost recovery could not be pursued on the basis of benchmark-pricing for recovery of those costs which are legitimate to the entity.

(iv) Social Regulation

Unlike economic regulation, which has largely given way to global competition and is therefore less of an issue in most OECD countries, social regulation looks at policies that impact human health and safety, and the environment. Its increasing importance is directly linked to increased affluence and consciousness. Hence social regulation reform is of greater concern to governments in countries that seek to achieve a greater degree of openness and transparency through the process of participative rule-making.

This is not to say that developing countries are not socially or environmentally aware, nor are unaffected by social regulation in OECD countries. Indeed, the position taken on global environmental issues by most developing countries suggests a prevailing

³⁸ Abeeku Brew-Hammond, "The Electricity Supply Industry in Ghana: Issues and Priorities" in *Africa Development Vol. XX1, No. 1*, 1996, pp. 81-98.

³⁹ World Bank, 1997 Report: Africa

perception that it is only when social regulation becomes an issue in terms of global competitiveness that social regulatory reforms are sought to be generalized to developing countries. For example, environmental activism over the decades has made environmental issues important policy issues for most governments of the developed world. However, many of the regulatory policies implemented over the last two decades have added to the cost of manufacture in the OECD countries in significant ways. As a result, and partly because of the perceived need to reduce environmental degradation globally, protection of the environment has become an issue for international regulation.

As part of the process, world consciousness has been raised to the level where all countries are now expected to bear a proportion of the cost associated with the risk⁴⁰ of environmental degradation from greenhouse gasses and excessive use of fossil fuel. Thus, in terms of the internationalization of social regulation, the justification advanced in spreading the responsibility for protecting the environment is likely to be the basis for the generalization of other forms of social regulation to developing countries as and when competitiveness becomes an issue.

The relevance of the above discussion on social regulation to the development of infrastructure in developing countries is derived from the implications for costs and cost recovery. As is well recognized, “a country may initially simply be too poor to finance and support, through compensatory user fees, extensive investments in infrastructures that are very capital intensive and characterized by economies of scale and scope.”⁴¹ By further generalizing to developing countries pollution control standards developed in the more advanced countries - for example, restricting the use of coal or other less efficient source of power, or requiring the installation of costly pollution control devices in the case of electricity generation - may render the publicly-owned electric power enterprise even less attractive to private investors. Moreover, the likely increase in the cost of energy production resulting from the additional cost of social regulation will more than likely add to the cost of manufacture in these countries, thereby rendering developing countries’ products less competitive in the global market.

1.5.3 Water

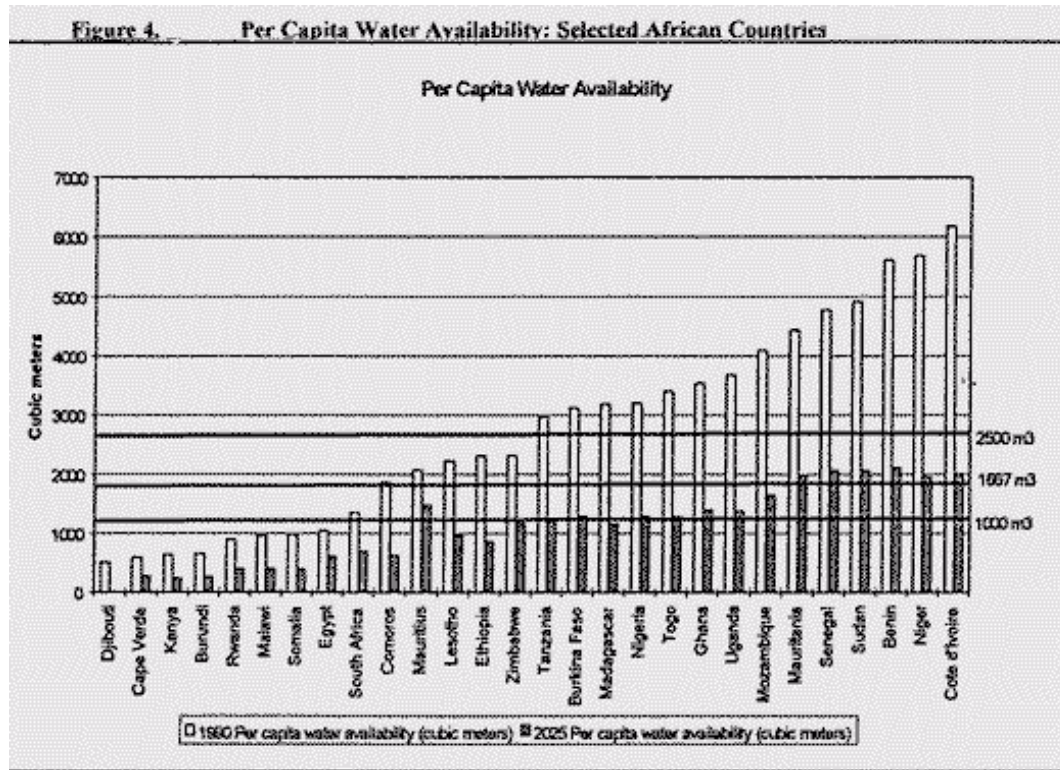
(i) Challenges

Fresh water is an absolute essential for life, and given its susceptibility to the vagaries of nature, its conservation through efficient use, protection from contamination, and effective storage are major challenges to African governments. Indeed, there is perhaps no greater fundamental challenge to African governments than to reduce the health risks arising from an inadequate supply of fresh water and from water-borne diseases. Whilst the problem is partly one of raising the consciousness of the people, it is as much one of economics. Hence, while acknowledging the importance of other contributing social factors, this sub-section will focus mainly on economic issues of water.

⁴⁰ Awareness of the risk makes them liable. In other words, one cannot be damaged or liable if one is not aware of the risk.

⁴¹ Paul Joskow, 1998, p.2.

In terms of water availability, the prospects for per capita water availability appear to be bleak as depicted in Figure 4, reproduced from the UN scarcity prediction.⁴²



As earlier observed, the investment requirement for the supply of fresh water and sanitation to all households in Sub-Saharan Africa in 10 years, and for irrigation of an additional 6 million hectares is estimated at US\$77.0 billion. Thus, from an economic perspective, the challenge is not dissimilar to those discussed above with respect to the electricity sector. The basic challenge is how best to attract investment to the sector so as to improve upon the low access-rate to piped fresh water by both urban and rural population whilst providing a reasonable profit to investors. Incorporated into this challenge are the issues of water resource management, improvement in sanitation, and the control of water contamination from the discharge of untreated sewage and industrial pollutants and encouraging private participation. As regards the latter, Table 3 shows the extent to which private participation in the sector has occurred.

Table 3. Private Participation in African Water Sector

Management Contract	Lease	Concessions/ BOT	De-monopolize/ BOO	Divestiture
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⁴² Sharma, Narendra P., et. al. "African Water Resources: Challenges and Opportunities for Sustainable Development, *World Bank Technical Paper No. 331*, (Washington, DC: IBRD/WB), 1996, p. 15

Gabon	Côte d'Ivoire	Côte d'Ivoire	Morocco	Senegal
Gambia	CAR	Cameroon		
Mali	Guinea	Guinea		
	South Africa	Morocco		
		Tanzania		
		Tunisia		

Source: M. Kerf & W. Smith, 1996; Economic Intelligence Unit (various years);
World Bank, Annual Report, 1997. Bold = post 1995.

Clearly, the lessons from the Transition economies and other developing countries speak to the introduction of competition in the sector and to the setting of cost covering tariffs in addition to adopting policy-measures aimed at reducing organic and inorganic pollutants. Behind this approach are the numerous studies that showed piped water to be substantially less costly than trucked-water. How these lessons apply in an African context and how African countries have responded to the challenge to date are examined below.

(ii) Scope for Competition

It is generally acknowledged that the water sector offers the least scope for competition than any other infrastructure service sector because of the monopoly characteristics of the service. This observation applies to both piped water and to water sanitation since both require extensive transmission systems: one to feed and the other to extract. Indeed, without adequate means of treating with waste water, the risk from water-borne diseases becomes greater. Ground water easily becomes contaminated by untreated sewage, and run-offs into streams and rivers are no less deleterious. Hence, private investors will shy away from the provision of piped water because of the high cost of internalizing externalities.

Moreover, because of the requirement for sunk capital for both piped water and waste-water treatment, there is very little scope for competition in the market. Indeed, there were competing piped-water systems in several countries, including the UK and Canada prior to either municipal water supply systems or regulated private monopoly supply systems. Thus, the scope for competition in the supply of water has since been limited to competition for the market, with a regulatory framework to limit abuse of monopoly power. In less developed countries, whilst trucked-water supply provides a form of competition of sorts, it arises out of need and not out of demand for a differentiated product, as evidenced by the wide disparity in relative prices.

As revealed by the data on water, less than 60 percent of the population in most African countries have access to safe water.⁴³ The percentage is lower still in the rural areas where the majority of the population is located. Thus the scope for competition in the sector is in expanding existing piped-water facilities or building new water systems in unserved areas. In this regard, African countries, mainly the Francophones, have adopted

⁴³ World Development Indicators, 1998

the concession approach in which private companies bid for the franchise to supply and to manage and expand the country's existing water system. In addition, BOT water projects are being encouraged with the assistance of the WB.

One example of the concession approach is for the supply of water in Gabon. Based on official government data,⁴⁴ prior to 1997 Gabon's water supply was provided in combination with electricity under private-sector management of publicly-owned facilities, Société d'Énergie et d'eau du Gabon (SEEG). In March 1997, Cie Générale des Eaux (CGE) acquired the management of the water sector and owned 51 percent of SEEG under a joint concession agreement with the Electricity Supply Board International of Ireland.⁴⁵ The major objective of the reform was to entrust the utilities to the private sector and to encourage future investment in the sectors. As part of the concession agreement, improvement and expansion of the country's water supply services were condition on financial penalties.⁴⁶ According to the IFC, which was instrumental in structuring the arrangement, it was the first of such arrangement for a utility in Africa. The private operator is committed to an expansion program of about US\$600 million over the twenty-year period of the concession. As a result, investment to boost the supply of water in rural areas increased markedly in 1996. Combined investment in 1996 was CFAF13.6 billion compared with CFAF4.408 billion in 1995.

Other African countries have adopted a similar approach to meeting the investment and service requirements of their water sectors. For example, Cameroon, Côte d'Ivoire, Morocco, and Tanzania have privatized their water sectors on the basis of competition for concessions. Several others are in the process of similar restructuring. Thus whilst the process has been found to present evaluation and other problems in the Transition economies,⁴⁷ given the relatively low service levels in African countries and the great need for new investment, the issues are more cost recovery and affordability.

On the issue of waste-water treatment, Tunisia has recently entered into a BOT agreement for a water treatment project. Côte d'Ivoire has also entered into a new water and sanitation project agreement. Both schemes were with private participation on be basis of competition for the market.

There are other methods of increasing the scope for competition in the sector where consumer choice becomes the primary determinant of water source and waste-water treatment methodology. Many are theoretical and are based on experiences in developed countries with very little immediate relevance to African countries given the overwhelming need for basic water services. Nevertheless, an examination of the more important methods is pursued from the perspective of applicability.

The introduction of competition in the electricity sector has often been held out as the model for the introduction of competition in the water sector. Hence, wherever it is possible to unbundle costs, competition is viewed as theoretical possible. However, unlike electricity, the high cost of transport is perhaps the single biggest differentiating factor in terms of costs. Like transmission lines in the electricity sector, water pipelines provide the greatest scope for scale economies, with natural monopoly characteristics.

⁴⁴ Government of Gabon, <http://www.presidence-gabon.com/a/data/index.html>

⁴⁵ Government of Gabon, <http://www.presidence-gabon.com/a/data/index.html>

⁴⁶ IFC Annual Report, 1997

⁴⁷ European Bank for Reconstruction and Development, 1996

But, unlike the lower relative cost of transmission lines to total system costs, the cost of water pipelines occupies a large part of total system costs in most water supply systems. Similarly, waste-water treatment plants need to be built to a certain capacity to be optimally economic. Hence, where the small size of the market operates to limit such treatment-plants to two or three, effective competition in the market may not be achieved.

Apart from the differentiating cost structure of water supply and waste-water treatment systems, concerns about quality are of greatest importance in water and sewerage systems. Competition increases the health risks from water-borne diseases, and hence the need for rigorous water testing by the regulatory agency and for the imposition of effective penalties. Indeed, the high cost of internalizing externalities is an incentive to sacrifice water quality in a competitive environment which increases the danger for regulatory capture by the industry and for trade-off between higher quality and lower price. It is mainly for these reason it is often suggested that quality and price should be regulated separately.⁴⁸

In some industrialized countries, competition at the boundaries of service areas is permissible, and some duplication of water pipes is evident in service areas in which no exclusive right to service customers has been awarded to a particular water company. It is also possible to have separate but parallel systems for potable water and for sanitation where water scarcity makes it economically feasible to use less expensive water for water sanitation use.

In addition to water services, there is scope for competition in meter-reading, billing and collection, maintenance, service-vehicle leasing, and the like. Competition to provide these segmented services could be at the concession bidding level where the system operator competes with specialist providers, or at the individual service operating level to be contracted out by the concessionaire. Moreover, in the case of billing and collection, the process could be taken a step further to include discounting the monthly billings to a specialist billing and collection firm for consolidation with other utility-service billings. By implication, the same holds true for other infrastructure services.

(iii) Effective Regulation

The fact that the trend of regulatory reform in the sector is towards concessions for existing facilities with build-out conditions, and BOTs for new investment, cost-covering tariffs are more a function of the concession or BOT agreements rather than administrative regulatory decrees. The benefit of this approach, as noted in the earlier discussion on concessions and licensing in the telecommunications sector, is that the inclusion of a regulatory framework in the concession or licensing agreement reduces the need for an elaborate administrative regulatory process. Regulatory oversight thus becomes one of monitoring and enforcing performance and quality standards and to adjusting price within the agreed-to framework. There are numerous incentives and penalties which can be incorporated in the concession agreement: it is a matter of what the market can bear.

As regards pricing policy, in the specific case of water where conservation is as much a concern as increasing water-access, an effective pricing methodology would be one that also serves to encourage the efficient use of water. Given the prospects for a reduction

⁴⁸ Armstrong, Mark, Simon Cowan, and John Vickers, Regulatory Reform: Economic Analysis and British Experience. (Cambridge, Mass: MIT Press), 1994

in water availability in the not too distant future, water usage beyond fundamental human needs must be controlled through the pricing mechanism. In other words, price is used as a mechanism for encouraging the efficient use of water. For example, in the case of Gabon, increases in water-takings were at a higher tariff level even though there was a stipulated general reduction in tariffs of 18 percent. The net effect was to increase revenues from CFAF9,744 million in 1995 to CFAF11,343 million in 1996, an increase of 16.4 percent.

A novel approach to increasing access to water has been utilized by Côte d'Ivoire. In addition to having full cost-covering tariffs supported by the state, the management of SODECI, the water provider, provides free connection to users with limited consumption, and recovers connection costs through the general water tariff. This had the effect of increasing the number of households connected by about 30 percent over a two to three year period.⁴⁹ But water supply is not limited to piped water in cities and villages.

At the extreme is the condition where riparian rights infringe upon a government's ability to regulate water usage for agriculture. This was especially the case in South Africa where the system of water access and usage discriminated against the majority of South Africans prior to 1994. Hence, the approach taken by the South African government to overcome the limitations of riparian rights is instructive.

The legal framework governing access to water in South Africa was based on the system of riparian rights embodied in the Water Act 1956 (Act 54 of 1956). According to this system, all landowners adjacent to a river has the right to take their share of water from that river. This system was expanded to allow adjacent landowners to take as much excess water as they can use beneficially in times of surplus flows. Those who were not landowners adjacent to rivers had to access water through the Water Court. Whilst the 1956 Act provided for ministerial override of these rights, the reality was that the system benefited a small minority of private landowners even after the establishment of the Government Water Control Areas and other regulatory means to limit the amount of water that could be stored.

The reform measures taken by the GNU government were not to abolish the provisions of the 1956 Water Act, but rather to augment and interpret them from the perspective of benefiting all South Africans. This was achieved by subjecting the interpretation of the Act to the Principles of the Constitution. For example, the role of the government as custodian of the country's water resources was incorporated in the Constitution as Principle 12. Also, the role of the government in managing, protecting, and determining proper use of the country's water resources was also incorporated into the Constitution as aspects of Principles 12 and 13.

Operationally, this means that South African laws as they apply to water-use allocations will no-longer be narrowly applied, and prior decisions arrived at from a narrow interpretation of the law will not be binding on the courts. Thus, with respect to "water-use allocations" claimed under the Water Act, 1956, such claims must meet the test of being "beneficial in the public interest."⁵⁰ Accordingly, claims that do not conform to the requirement of being beneficial in the public interest will not be recognized. Moreover, if existing valid allocations under the 1956 Act are impaired from the reallocation or water resources in pursuit of equity, specifically to redress past racial

⁴⁹ Covarrubias, Alvaro J., Lending for Electric Power in Sub-Saharan Africa, (Washington, DC: IBRD/WB), 1996, p. 49

⁵⁰ Government of South Africa, White Paper on Water Policy, 1997

discrimination, the reallocations will be upheld under the Constitution. Consequently, internal to South African water use, the only “rights” to water which are recognized by the Constitution are those for basic needs and for environmental reserves. These uses must be satisfied above all other.

The above notwithstanding, the riparian system has not been abolished, “big bang.” Rather, the process adopted was one of implementing measures that would over time remove the discriminatory properties from the system. For example, the construction of new dams, the systems of transfer, conservation, and monitoring have been influenced by the need to conform with the Principles of the Constitution as they apply to the allocation and use of the country’s water resources. Thus, a new system that speaks to the water provisions of the Constitution in all respects will have evolved over time.

An aspect of the regulatory reform process involves the licensing of water users. Under this process, existing water users must register their water uses within a given period. Licenses will be issued based on an evaluation of the application in terms of the “beneficial use in the public interest” criterion. License for new uses must be applied for as are need. The term of each license will vary according to the use of the water and will be issued in 5 year cycle for a maximum period of 40 years. This licensing process is looked at as providing the basis for creating a pricing structure which could be used as the forerunner to a market in water, should that become a desirable goal of the government. A license is issued for a particular water-use and is not automatically transferable to other uses.

With respect to pricing, the South African Cabinet decided in February 1996 that the price paid for water by major users should be progressively increased to recover the full cost of making it available.⁵¹ Hence, tariff-setting was entirely based on issues of equity and redistribution.

1.5.4 Railways

(i) Challenges

Unlike the provision of electricity and water services, the railways must compete with other modes of passenger and freight transport systems. This is especially the case in the developed economies where the various modes of transport are defined by quality of service differentiation and relative costs, giving consumers a choice. But this vulnerability of the railways to costs, quality of service, and pricing pressures is also present to some degree in African countries, especially in countries which are landlocked and are export dependent. African countries seeking integration into the global economy can no longer afford to be nonchalant about transport costs. The shift from natural to synthetic manufacturing inputs places organic producers at a greater disadvantage when transport costs account for a large proportion of the cost of their exports.⁵²

As increased economic growth is experienced by African countries, the quality of service and price pressures on the railways will likely increase as local road network infrastructure and trans-national highways are built to accommodate the increasing

⁵¹ Government of south Africa. Opening Address, 1997 Budget. See also, Water Policy and Development.

⁵² Amjadi, Azita and Alexander J. Yeats, “Have Transport Costs Contributed to the Relative Decline of Sub-Saharan African Exports? Policy Research Working Paper 1559, (Washington, DC: IBRD/WB), 1995

demand for both road haulage and faster point to point movement of people. But until then, railways will continue to be a major form of passenger and freight transport, linking landlocked African countries to sea ports and providing cheap mass transport. Hence, at this point in the development of transport infrastructure, the primary challenge faced by most African countries is one of improving the efficiency of the railway services so as to improve the competitiveness of their exports, especially those which must be transported long distances to sea ports. And since improving efficiency often entails substantial investment in rolling stocks and line rehabilitation, the challenge is extended to mobilizing the required capital investment. It is further consequentially extended to reducing labor redundancy and adopting full-cost recovery where private investment is a reform policy objective. As to private participation in the sector, Table 4 shows that, like the water sector, private participation increased since 1995.

Table 4. Private Participation in African Railways Sector

Management Contract	Lease	Concessions/ BOT	De-monopolize/ BOO
Cameroon	Burkina Faso	Cameroon	Senegal
Congo	Côte d'Ivoire	Côte d'Ivoire*	
Malawi	Guinea	Ethiopia*	
Tanzania		Gabon	
Togo		Kenya*	
		Malawi	
		Mozambique	
Uganda*			
		Tunisia	
		Angola*	

Source: M. Kerf & W. Smith, 1996; Economic Intelligence Unit (various years); **Bold = post 1995**. World Bank, Annual Report, 1997. * Operating Concession with Spornet

(ii) Scope for Competition

The scope for competition is one of competition for the market through concessions and private-sector funded expansions, as well as inter-modal competition in the market. With respect to competition for the market, the discussion on concessions in the electricity sector applies. And while it is possible to separate passenger transport from freight transport, it should be noted that in the case of the US passenger rail transport segment private investors are not exactly flocking to invest in the service, even in the high density corridors. Indeed, even with deeply layered government subsidies, the service is still regarded as uneconomical.

In terms of competition for the market, several African countries have begun to implement reforms which seek to improve operating efficiency of the railways and to address customer needs. Whilst reforms prior to 1995 have mainly taken the form of contracting out the management and operations of the systems, restructuring through unbundling and divestment of non-core services, concessions, and divestiture as reform modalities have increased in recent years. For example, the Abidjan-Ouagadougou railway line is privately run, the first concession of its kind; Tunisia's railway system not only is being modernized and expanded but also is to be privatized; the Tanzania Railway Corporation (TRC) divested itself of non-core operations and is under private-

sector management; Mozambique's southern region railway is to be upgraded and managed under a joint venture consortium.⁵³

Other reforms to date include Cameroon's twenty-year concession that provided for new investment and the dismissal of 450 employees, and Gabon's concession agreement in 1997. Rail and road links to the Maputo port are integral aspects of the Maputo Development Corridor (CDM)⁵⁴ and evidenced the first privately-financed BOT project in southern Africa. The measures taken by Cameroon, Mozambique, and others evidenced the level of competition that has been introduced thus far in the railway systems of Africa. However, in contrast to the reform measures implemented by the countries mentioned, South Africa has opted to restrict private participation in the sector and have agreed with the unions to a five-year moratorium on private-sector participation.

With respect to competition in the market, the process is perhaps best illustrated by the US experience. What is more, because of a discernible reversal in trend, there are lessons for developing countries, especially for African countries where the potential for long-haul passenger and freight traffic is greatest and where transport infrastructure is still rudimentary.

As regards passenger rail service, mass passenger rail transport in the US had largely given way to individual road transport with the construction of an extensive road network that spans coast to coast. The availability of low-cost petrol and affordable automobiles fueled the switch away from mass transport rail system to cheaper road transport. In addition, long distance travel is accommodated by an equally extensive air transport system that offers fast, safe, and affordable services. Indeed, even in relatively short distances, Washington, DC to New York for example, commuter air transport is a competitor where speed is the determinant. As a result, consumers exercise the choice between speed, personal inconvenience, and price on an almost daily basis. In most cases, personal convenience and speed preempt the benefits of rail transport. However, given the increased congestion on the road network, and construction constraints imposed by tighter federal and state highway-budgets and land space, the railway is being promoted as an alternative mode of passenger transportation. To encourage greater use of the state-owned passenger railway system, the US Federal government passed the Amtrak Act, 1997 which created a new Board of Directors and required the service to be commercially focused and customer driven. It also provided for new investment in high-speed service in the northeast corridor, between Boston and Washington, DC.

With respect to freight transport, whereas, private road transportation networks developed over the years to challenge the supremacy of the railways and indeed resulted in their rationalization, the increased congestion on the roads, increased insurance costs, and other cost and quality of service factors have operated to increase the demand for rail freight transport beyond existing capacity. As a result, the availability of the line network for passenger service is being adversely affected by the increasing demand for line-use form freight carriers. Additionally, although the Interstate Commerce Commission (ICC)

⁵³ IFC Annual Report, 1997

⁵⁴ The CDM project agreed to between Mozambique and South Africa is designed to upgrade the transport links between the Maputo port and the expanding South African's industrial center of Witbank.

has found otherwise, the existing four private rail freight operators are being accused of monopolistic behavior.

For most African countries, on-time pick-up and delivery and other quality-of-service concerns are as much determinants of usage as are tariffs. Indeed, in some cases the higher-cost road haulage was the chosen mode of freight haulage because of the unreliability of the railways. The TAZARA line that linked Zambia to the port of Dar es Salaam evidenced the inefficiency and unreliability of most African railway systems operating in an essentially captive freight transport market. With respect to reliability, cross-border rail transport systems were severely affected by civil and border wars which plagued the regions since the 1960s. This was especially the case of the Mozambique Railways which lost much of its freight traffic to other railway systems and to road haulage during its seventeen-year civil war.

But if the American experience has any lesson to offer on the future role of the railways in Africa, it is that the railways will continue to provide the essential service of moving goods over long distances. Hence, their efficient management now could only ensure their competitive position within the transport sector and, consequentially, the competitiveness of Africa in the global economy. The early indications are that where reforms have been effected the results indeed have been encouraging. For example, in Burkina Faso the steep decline in domestic freight traffic experienced in 1989 was reversed with a change in management structure and incentives, reaching 7.0 thousand metric tons in 1993.⁵⁵

(iii) Effective Regulation

With most of the railways under state ownership and being highly subsidized as social institutions, regulation to promote private participation was almost nonexistent. Tariffs are still being set by the appropriate government ministry and reflects contributions to cost rather than cost recovery. There are exceptions to this observation, however. The most notable being Cameroon. Resulting from the concession agreement entered into in May 1998, the new company will be allowed to set competitive cost-recovering tariffs for both freight and passenger service, with the exception of passenger service on a few lines which the government will continue to subsidize so as to maintain tariffs at current levels.

For those countries embarking on deregulation of the sector, the US experience once again offers as a lesson. Except where market dominance is evident, the Staggers Act 1980 increased the freedom of the railways to negotiate freight rates directly with major suppliers and to price their services in accordance with what the market can bear. But despite decline in real rail rates, as noted above several coal companies and other captive shippers, such as grain producers, and some power companies have complained about increased rates in an effort to get the US Congress to rollback the Staggers Act.⁵⁶

1.5.5 Ports

⁵⁵ IMF Staff Country Report, No. 94/9

⁵⁶ World Bank, Regulatory Reform in Transport: Some Recent Experiences, José Carbajo, editor, (Washington, DC: WB), 1993.

(i) Challenges

Ports are an essential link in the transportation chain, especially for the movement of bulky exports such as grain, iron ore, and other mined minerals on the one hand, and the handling of imported goods and raw materials on the other. African ports are deemed inefficient however, and like most of African infrastructure are in need of rehabilitation and modernization. Hence the challenges are very much the same as for the infrastructure sectors examined above. In addition, many ports, the Maputo port for example, have lost out in consequence of wars. Economic rail links were made unsafe as a result of the civil war in Mozambique. Other ports were rendered equally unreliable. Thus, whilst the challenge of African ports is essentially one of improving their efficiency, it is also one of restoring their credibility.

Several maritime African countries have adopted reforms to address these issues. Many have begun to restructure their port facilities, unbundling services, modernizing and rehabilitating facilities with the assistance of the WB and other agencies, and inviting private participation in the form of leases, management contracts, and concessions, as depicted in Table 5. Just as many have plans for privatization in the immediate future. Thus the reforms have been similarly tailored to reflect a gradualist approach, like those implemented in the other infrastructure sectors.

Table 5. Private Participation in African Ports

Management Contract	Lease	Concessions/ BOT	De-monopolize/ BOO	Divestiture
Guinea	Cameroon	Cameroon	South Africa	Ghana*
Kenya	Guinea	Guinea		
Sierra Leone	Mozambique	Mali		
	Guinea	Mozambique		

Source: M. Kerf & W. Smith, 1996; Economic Intelligence Unit (various years); World Bank, Annual Report, 1997. Bold = post 1995. * Partial

(ii) Scope for Competition

The scope for competition in the sector is in the main one of competition for the market. The unbundling of services allows for private providers to compete for the supply of handling services or for operating specialist port facilities such as dredging, piloting, towage, and other similar services. On the other hand, storage, stevedoring, and container handling could be opened up to competition. Even the maintenance of facilities could be contracted out as a separate service. In reality, however, the need for infusion of private capital for basic port infrastructure makes finite segmentation unrealistic at this stage of port development, although it may be possible to offer concession for each

terminal in large ports, as was done in Argentina.⁵⁷ That is, private investors will be less inclined to provide sunk capital if the more lucrative segments of port services are opened to competition. This attitude is not dissimilar to that observed in the telecommunications sector where a period of exclusivity is often a requirement for private participation. Having said that, as part of port reform in Cameroon it is proposed to privatize the functions of dredging, handling, and others on the basis of specific and separate concession agreements.

Beyond competition for the market, there is growing competition in the market between rival ports. Several African countries are attempting to recapture their share of the market. Others, South Africa for example, are implementing measures to retain their market positions. In this regard the vertically integrated enterprises combining port facilities with conference lines and freight forwarding have a distinct advantage. Countries that are able to improve the competitiveness of their railway links with their port facilities are also likely to attract a higher volume of freight traffic.

(iii) Regulation

Regulation of port services is not as advanced as in the telecommunications services and tariffs are built into the concession agreements for those ports privatized on the basis of concessions. For others, it is what the government fixes. For example, as part of the restructuring agreement with the WB, the government of Cameroon agreed with the WB to reduce ports tariffs by 10 percent and to take measures to reduce dwelling time and control costs.

1.5.6 Airports

(i) Challenges

Like ports, airports are in the early stages of regulatory reform, even in developed economies. However, there is very little that can be said about tailoring airport reforms that has not been said about the infrastructure sector in general. Airline safety, airline and airport environmental and security standards are functions of a government's policy and are not dependent on the ownership-management structure of airports, although, to be sure, the policies pursued by the management of airports must fully support the government's aviation policies. But besides conforming to the statutory requirements on safety, environment, and security, the management of airports is essentially one of efficient processing of passengers through airport terminals and of providing the necessary airside services to the airlines. Hence the main challenge of regulatory reform with respect to airport services is the fundamental challenge to all publicly-owned infrastructure service sector: converting public provision into private provisions in the pursuit of enterprise efficiency and efficient allocation of resources.

With respect to Africa, very few African airports escaped the general neglect of the infrastructure sector during the 1980s and early 1990s. Hence, rehabilitation of structures, upgrades of runways and other airside facilities, and improving passenger

⁵⁷ Estache, Jose and Jose Carbajo "Competing Private Ports- Lessons from Argentina" in The Private Sector in Infrastructure, (Washington, DC: IBRD/WB0, 1997

handling facilities have combined to pose the additional challenge of attracting private participation in the rehabilitation and modernization of the sector. The extent to which this has been accomplished is shown in Table 6. Additionally, with increasing flow of international traffic, the civil aviation codes need to conform to international standards and to comply with international conventions.

Table 6. Private Participation in African Airports

Management Contract	Lease	Concessions/ BOT	De-monopolize/ BOO	Divestiture
Togo	Guinea Madagascar Mauritania	Cameroon Côte d'Ivoire Senegal		South Africa*

Source: M. Kerf & W. Smith, 1996; Economic Intelligence Unit (various years); World Bank, Annual Report, 1997. Bold = post 1995. * Partial

(ii) Scope for Competition

In the developed economies where air transport is a part of the inter-modal competition in the transport market, a theoretical case could be made for new entrants access to the airport market. Presumably, locations that offers easy access to commuter trains and away from congested roads will be more attractive to passengers, and airlines seeking to reduce costs in a deregulated air transport market would likely take advantage of the opportunity to reduce landing and other airside charges. Whilst several regional and other alternative airports have been constructed on the basis of improving access and reducing costs, many have excess capacity.⁵⁸ In one US mid-western location a new airport has been constructed with public funds for anticipated future use. Even when passenger safety has been made an issue, some authorities are reluctant to divert traffic to nearby airports with excess capacity. For example, San Francisco airport has been rated one of the most unsafe airports in the world, yet there is a reluctance to utilize the Oakland airport which is safer, with easy access to all business centers in the area, and with excellent passenger facilities. Airlines are apparently constrained by threats from the city of San Francisco.

Other airports have been constructed out of capacity constraints at the major airports as a result of the increase in air traffic. For example, Dulles International Airport in the greater Washington DC area mainly handles the international traffic to Washington, DC whilst the Ronald Reagan airport (formerly the Washington National airport) handles internal long-haul and commuter flights. But even here, the preference is to utilize the “downtown” airport even though Dulles airport has excess capacity and is deemed relatively safer for landing the larger aircrafts. The Newark, New Jersey airport

⁵⁸ Kapur, Anil, “Airport Infrastructure: The Emerging Role of the Private Sector” World Bank Technical Paper Number 313, (Washington, DC: IBRD/WB), 1995

is the least used of the three international airports in the New York area. The pull of Heathrow in London also serves to illustrate the point.

The examples given above suggest that competition in the market is constrained by factors other than price and passenger convenience, indeed, even other than passenger safety. Hence, for Africa at its current stage of economic development, beyond the harmonization of regulation governing air traffic safety and the introduction of commercial principles through concessions of existing facilities, regulatory reform in the airport sector is an academic exercise. Moreover, Africa has the opportunity to benefit from the evolving restructuring experiences of the developed economies.

1.6 Conclusion

The regulatory reform of African infrastructure has gathered momentum since 1995, not necessarily because of enlightened governance on the part of African governments, although such an interpretation could find support in some quarters, but primarily because of the unjustifiable disparity in per capita income in comparison with other developing regions which can no longer be ignored by multilateral and other donor agencies, and because of the need to expand markets for industrialized countries' products. It is therefore not accidental that debt-forgiveness, capacity building, and other human empowerment projects have been receiving greater attention in the region than heretofore. Even the IMF has indicated a changed approach to its hitherto unwavering economic restructuring prescriptions. Additionally, advances in technology have provided developed countries with a new approach to the channeling of resources to Africa at a rate not experienced before.

Despite the flurry of economic activity in the region, FDI in the region is still tentative and highly concentrated in a few countries. The evidence clearly suggests that, as perceived by private investors, the potential rewards from investing in African countries are still not commensurate with the risks. Indeed, with the exception of a few BOT schemes in the electricity and water sectors, investment and thus competition is mainly in the contestable segments of the markets in a few countries. Thus, from the perspective of the private investor regulatory reform in the provision of infrastructure services in the region still has a long way to go, and what has been implemented thus far has still to be proven-in. On the other hand, the governments of most African countries are equally wary of opening the sector up to private participation for fear of being overwhelmed by foreign investors seeking short term returns. Hence, the reform process has been largely on the basis of de-monopolization in the telecommunications sector and concessions in others, with opportunities for local and employee participation being a significant factor in the process.

But, despite the apparent conflicting positions of private investor and government, there is an inevitable lowering of the intrinsic barrier to private participation on equitable terms. New regulatory techniques developed to accommodate advances in technology in the sector serve also to provide both parties with the opportunity take a gradualist approach to the reform process. And with the equally inevitable expansion of the comfort zone, it is highly likely that both government and private investor will come to coexist in a framework of mutual cooperation and respect for the benefit of all participants.

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