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To: Members of the Committee of the Whole  
for the Development Committee

From: The Secretary

Subject: The Financing of Infrastructure in Developing Countries

Attached for the information of the Committee of the Whole is a paper on the financing of infrastructure in developing countries, which has been prepared by the Bank staff, in consultation with the Fund staff, for the Spring 1995 meeting of the Development Committee.

Given the nature of this paper, which is primarily of interest to the Bank, it is suggested that a Committee of the Whole meeting be held only if requested by Executive Directors.

Ms. Puckahtikom (ext. 38780) is available to answer technical or factual questions relating to this paper.

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## The Financing of Infrastructure in Developing Countries

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Why is infrastructure a subject worth discussion by finance ministers? As is evident in the accompanying paper, infrastructure is essential for development, but it is costly, its provision needs reform in many countries, and finance is central to improving efficiency and meeting demand for infrastructure services. In reviewing the papers that deal with the financing of infrastructure in developing countries, ministers may wish to focus on the following issues.

### Issues for Discussion

1. Private financing of infrastructure is growing briskly, but is still a small share of the resources needed. What steps have ministers found useful in attracting private finance for infrastructure and in which sectors, and how much room is there for growth of such financing in their countries?
2. Price reform is critical to mobilize resources for infrastructure finance and to reduce the heavy burden of public subsidies in many countries. It will also help to achieve efficiency and environmental objectives. How can price reform be achieved in ways that are socially and politically feasible in ministers' own countries, and what can be done to facilitate it?
3. Public finance for infrastructure, including taxation and debt, should have a more limited role as private finance and price reform increase in importance, but will remain necessary for some infrastructure activities. Subsidies will also continue to be needed for essential services that are commercially unattractive. What experience have the ministers' countries had in allocating tax revenues for infrastructure development (including at subnational levels of government) and in designing effective subsidies for the poor?
4. Appropriate risk allocation and risk sharing between public and private partners through guarantees is needed, but guarantees for commercial risk should be avoided. Many ministers have experience in managing and allocating risk between public and private partners. What lessons do they draw from this experience about the role for guarantees in infrastructure finance?
5. Activities that foster adequate maintenance and efficient operation of existing infrastructure facilities often have higher returns than investment in new facilities. What experiences have ministers had in implementing sustainable programs to fund infrastructure maintenance? What can the international institutions and donor countries do to foster better maintenance?
6. The Bank Group is focusing its support to infrastructure on improving sector policies, facilitating financing, and increasing efficiency and private sector involvement in service provision. In addition, Bank Group members are collaborating more to increase their catalytic role in the infrastructure sectors. Based on ministerial experience, what specific suggestions are there for ways to enhance Bank Group effectiveness in improving infrastructure performance?



## THE FINANCING OF INFRASTRUCTURE IN DEVELOPING COUNTRIES<sup>1</sup>

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1. The growing demands for higher quality infrastructure services in all developing countries are adding urgency to the search for new sources of finance and new modes of provision. Governments face a challenging agenda to transform incentives and institutional arrangements so that the public and the private sectors can become more effective partners in developing infrastructure that serves the objectives of economic growth, poverty reduction, and environmental sustainability. The Bank Group and the Fund can provide an integrated array of instruments to assist countries in mobilizing infrastructure finance and promoting its efficient use. By focusing on the financing of infrastructure, this paper builds on the 1994 *World Development Report, Infrastructure for Development*.

### THE NEED TO DO THINGS DIFFERENTLY

2. Reliable power, transport, and telecommunications are essential for countries to modernize production, attract foreign investment, and compete in global markets. Basic infrastructure services—such as clean water, sanitation, safe waste disposal, and transport—improve the health and raise the productivity of the poor. And appropriately designed and efficiently run transportation, water, sanitation, and power can contribute to more environmentally sustainable human settlements, particularly in urban areas.

3. To achieve these benefits, developing countries have been investing an average of 4 percent of their GDP in infrastructure, about \$200 billion a year. The large investments in infrastructure have allowed service capacity to increase faster than population growth (particularly in water supply, telecommunications, and power). But the unmet demand for basic services remains huge: one billion people lack access to safe water, and close to two billion lack adequate sanitation or electric power.

4. Both the supply and the quality of infrastructure services are inadequate to meet current demands in most developing countries and in the transition economies—and effective demand for infrastructure services will continue to grow. Projections indicate that the demand for infrastructure investment in the East Asia and Latin American regions could easily reach 6 percent of GDP for several years, and that economically justified infrastructure investment in many developing countries is well above recent levels. Private financing sources will need to be tapped to meet these growing investment demands in many countries. Moreover, the projected increase in demand for infrastructure is unlikely to be met by traditional approaches of provision, which have been characterized by three pervasive failures.

5. ***First, inefficient operation.*** The most costly and widespread cause of poor system operation—as seen in high loss rates of power and water, and frequent breakdowns of vehicles and equipment—is inadequate maintenance. This ultimately results in reduced service quality, increased costs for users, and unnecessary expenditure on new investment to replace existing capacity. Low and middle income countries could save more than \$55 billion a year (a quarter of their annual infrastructure investment) by providing adequate maintenance and efficient operation of roads, power, water, and railways.

6. ***Second, unresponsiveness to users.*** Inefficient operation means unreliable service, and reliability is a critical aspect of user satisfaction too often ignored. In addition, providing service to new users who are willing and able to pay is often excessively delayed. For example, of 95 developing countries in 1992, 37 had a waiting period of six years or more for telephone service.

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<sup>1</sup>Prepared by staff of the World Bank Group in consultation with staff of the International Monetary Fund.

7. *Third, financial inefficiency and fiscal drain.* The average revenues are less than production costs for all developing country infrastructure services except long distance telecommunications, and the structure of tariffs often creates undesirable incentives. Underpricing leaves too few resources for expanding coverage and improving service quality. It also leads to overuse of services, because low prices prompt high consumption. And it demands enormous subsidies to infrastructure providers. In many countries, the inability or unwillingness of governments to fund inefficient public service providers is a critical impetus to reform.

## INSTITUTIONAL ARRANGEMENTS—THE KEY TO PERFORMANCE

8. The efficiency and quality of infrastructure services vary greatly within and across developing countries. The 1994 WDR found that the performance of infrastructure stems not from general economic conditions but from the institutional environment, which often varies across sectors within countries. The main determinants of good performance—and bad—are the institutional arrangements and incentives for providing infrastructure services.

9. Reforming infrastructure service provision requires three changes: more consistent application of commercial principles, broader use of competition, and greater involvement of users. These changes can be pursued through four main institutional options: i) reforming public sector provision by commercialization and corporatization, ii) shifting the operation of publicly owned facilities to the private sector through such arrangements as leases and concessions, iii) privatizing both operation and ownership with appropriate regulation, or iv) facilitating provision of services by communities themselves.

10. Countries across the spectrum of development are experimenting with these options in different ways for different services. The challenge is to expand the range of activities in which competition and commercial incentives can be exploited to foster more efficient and reliable service provision and expanded service coverage. Competition can be introduced through quite different approaches, varying with the economic and technical characteristics of the activity. For those components of the infrastructure sectors that do not entail natural monopoly (as in the new, value-added telecommunications services), competition can be fostered freely in the market among multiple providers. Where a natural monopoly exists due to significant economies of scale or high sunk costs (as in municipal water supply), the right to exercise the monopoly can be granted through competitive bidding—"competition for the market." And in some activities, competitive pressures can be created by providers offering alternative services, such as competition between trucking and rail carriers in the same region. To develop fully the opportunities for competitive and commercial provision of infrastructure, the government must focus its efforts—whether through finance, ownership, or regulation—more effectively on protecting society against potential abuses of natural monopoly and on ensuring that the goals of social equity and environmental sustainability are served.

11. For power and telecommunications, many countries are "unbundling" the formerly monolithic public sector providers. In East Asia, for example, countries are inviting private entrants into generation and even distribution, leaving the natural monopoly of transmission under mainly public ownership or sometimes under a long-term contract with private operators. Many countries are also opening value-added telecommunications services to entrepreneurs. In Latin America, several countries have transferred entire power and telecommunications entities to private owners to break with the poor public management and financing of the past. Divestiture to private owners has in most cases dramatically increased investment and efficiency, but sustaining such improvements requires the discipline of competition, supported by effective regulation focused on issues that cannot be solved by the market—such as access

to network facilities or preventing abuse of monopoly power. Countries must learn from the regulatory experiments now underway and adopt regulatory approaches matching their institutional capacities.

12. For ports, railways, airports, and urban transport—and for urban water supply and sanitation—countries have adopted a wide range of public-private partnerships. Most popular are contracts (leases, concessions, and service franchises) in which governments retain ownership of the facilities. Countries have also been making incremental reforms, such as corporatizing public entities. Evidence from these reform experiences shows that the pressure of competition in the financing and provision of infrastructure services improves performance through increased efficiency and responsiveness to users.

13. Most of the road system in any country, apart from the very limited share financeable from direct tolls, will remain under public ownership, financing, and management. The challenge is to ensure adequate maintenance and accountability to users through such mechanisms as road boards, financed by user charges. For other infrastructure involving small, highly dispersed investments—such as rural roads, *water supply and informal sanitation—the government's role is equally important*. Local communities can often participate in financing and operating many of their own services, usually with some support—technical assistance, training, and limited credit for up-front investments—from governments or nongovernmental organizations.

#### AN AGENDA FOR CHANGE

14. *Price reform.* Realistic pricing is basic for running infrastructure on commercial principles, promoting competition among suppliers, providing funds for investment, and attracting new investors and operators. On average, tariffs cover only 30 percent of the production costs for water, 60 percent for power, and 80 percent for gas. In some cases tariffs are distorted, exceeding costs for some uses while being far below costs for others.

15. Although it may be difficult, raising tariffs can have a profound impact on public budgets by reducing infrastructure's claim on public funds. The transfers have been very large. The annual costs not recovered from users in developing countries is estimated to be \$90 billion for power, \$18 billion for water supply, and \$15 billion for railways. The total—\$123 billion—represents nearly 10 percent of government revenue in developing countries and more than 2 percent of their gross domestic product.

16. Mobilizing revenues through tariffs and user charges that cover the costs of efficient production allows infrastructure providers to be financially independent from government agencies, reducing political interference. Providers become more responsive to their customers, who can signal their preferences for services through their willingness to pay. And restructuring tariffs to cover costs also stimulates firms and households to use fewer services and reduce waste. All this translates into lower consumption, lower growth of needed capacity expansion, and lower financing requirements for new facilities. And for such sectors as electric power, it can lessen the environmental impacts of meeting demand.

17. Closing the gap between prices and costs will also go a long way toward addressing social concerns. The poor will lack access as long as resources are insufficient to expand services. There remain limited areas of infrastructure—such as rural roads or flood control works—where externalities abound and user charges are not practical or could not accurately represent the full costs and benefits of services. And there are instances where governments need to assist users unable to pay for basic services. These exceptions, discussed below, pose special challenges for public policy.

18. *Private sector involvement.* Countries that have attracted private sector investment and management into infrastructure have realized substantial benefits almost immediately. Hungary's telephone system, after its privatization in late 1993, has been expanding faster than that in any other country in Eastern Europe. Côte d'Ivoire's urban water supply system, under a private operating contract for more than two decades (and as a concession since the late 1980s), has higher connection rates, internal efficiency, service reliability, and cost recovery than those in most neighboring countries, yet it has comparable tariffs. When Argentine railroads were privatized through concessions, the new railways carried the same traffic with only a third of the labor force. Service improved, freight rates fell, and the government subsidy dropped from \$800 million to \$150 million, going only to rail services still in the public sector. Brownouts in the Philippines, contributing to economic crisis in the late 1980s, have almost ceased since more than 3,000 megawatts of private generating capacity were added through independent power projects, beginning in 1988.

19. Inviting private management through concessions or divestiture introduces new entrepreneurial skills and new technology. In Côte d'Ivoire, expatriate managers have trained and been replaced by local personnel in a short period, and the domestic capital market has become the main source of investment finance. Prices of services have also declined where the private operators have achieved efficiency gains (such as reducing unaccounted for water), and efficiency has improved for both public and private providers when the operators are subject to competition (as in power generation). There is also ample evidence that private infrastructure projects are completed faster and with lower cost overruns than comparable public projects, yielding savings which often compensate for the higher costs of private finance. The reliability and diversity of services offered to customers typically improves as well with the entry of competing providers.

20. There are major differences among the various infrastructure sectors in the extent of private interest and in the instruments used. Some 40 countries have opened value-added or overseas telecommunications services to competitive private entry—niche markets that enjoy high growth potential, limited risk, short payoff, and aggressive marketing by suppliers. An increasing number of countries are transferring their main (local) telecommunications entities to private owners, sometimes with defined periods of exclusive service during which the companies are required to expand coverage. Several countries permit private independent power projects to sell through the main transmissions grid in competition with other generating companies, or to contract with a single purchaser under take or pay contracts. Toll road projects are becoming increasingly common, notably in China, Hungary, Indonesia, Malaysia, Mexico, and Thailand. Malaysia has privatized a container port, and leases or concessions for port operation are in place in Chile, China, Colombia, Gambia, Ghana, and Venezuela. Railway concessions are under way in Argentina and in advanced preparation in Côte d'Ivoire. Lease, concession, and build-operate-transfer (BOT) arrangements in water supply and sewage treatment are operating in Argentina, Guinea, Mexico, Malaysia, and Sierra Leone—and under preparation in Peru and Poland, among many other countries.

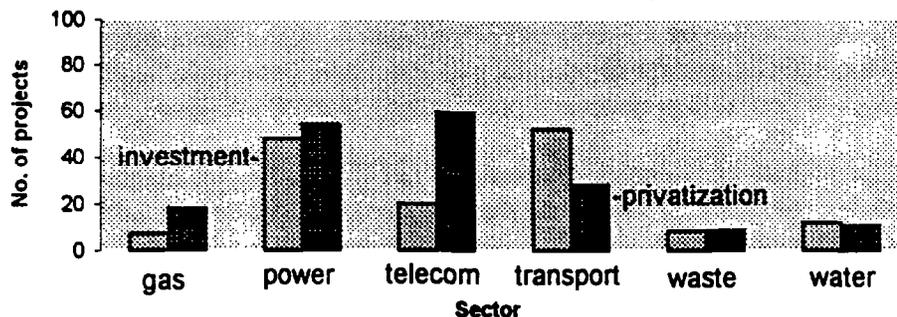
21. *Private financing.* Though negligible in the late 1980s, private financing in one form or another now accounts for about 7 percent of infrastructure project finance in developing countries, and may reach 15 percent by 2000. With bilateral and multilateral foreign aid accounting for another 12 percent of annual investment, governments thus put up 80 percent—or more. Although an increasing share of the domestic savings needed to finance infrastructure provision can come from private sources, governments will continue to be the major source of funds for infrastructure as well as a conduit for many donor resources.

22. Privatization (including both the sale of public assets to private entities and concession agreements) has produced significant public revenue and fostered new sources of finance for infrastructure. Of the \$95 billion obtained by developing countries from privatizing public enterprises from 1988 through 1993, about \$32 billion came from infrastructure privatizations in 38 countries. Foreign investment has been much more significant in Latin America (accounting for 56 percent of proceeds from divestiture) than in East Asia (2 percent). Privatization can be important in developing local stock markets and broadening domestic capital markets. For example, corporate shares of infrastructure companies accounted for more than a third of the capitalization of the Argentine stock market in 1993. From 1989 through 1993, the equity value of capital markets in developing countries more than doubled, and the share of infrastructure stocks in this capitalization increased from 3 percent to 22 percent. As local markets deepen, privatized infrastructure entities can raise investment funds by issuing shares and debt. Widespread stock ownership can also enhance political support for privatization.

23. The mobilization of internal revenues—stemming from a sound pricing policy—is another source of finance for investment. Since telecommunications investments generate relatively rapid returns, they can often be financed in large part from internal corporate profits, with additional financing raised on capital markets without recourse to government guarantee. For other sectors, the sheer size, potential risk, and delayed revenue streams of major investments requires more structured finance from project sponsors or other sources, such as leasing companies.

24. Transport and power have been the main targets of private investments, while telecommunications and power have been the main focus of privatization (figure 1). Latin America, followed by East Asia

**Figure 1. Most private investment projects and privatizations are in power, telecoms, and transport...**

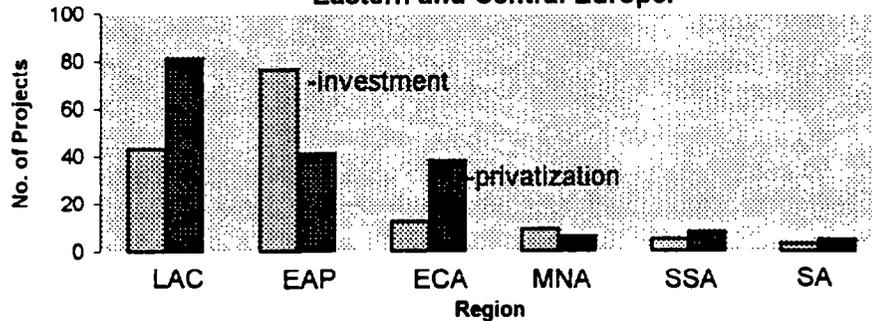


Note: Number of actual projects or transactions, 1984-94

Source: "The Emerging Infrastructure Industry," World Bank, 1995

and East and Central Europe, have had the bulk of the infrastructure privatizations, while East Asia is the dominant recipient of private investments (figure 2). However, the pipeline of planned investment projects is growing rapidly in South Asia.

Figure 2: ...and are located in Latin America, East Asia, and Eastern and Central Europe.



Note: Number of actual projects or transactions, 1984-94  
 Source: "The Emerging Infrastructure Industry," World Bank, 1995

25. As with all foreign direct investment (where half went to five countries in 1989 to 1993), private international flows for infrastructure have been concentrated in relatively few (mainly middle income) countries, but they are spreading to all groups of countries. Both project debt financing and foreign direct investment—which is often linked to a management interest in the project—are less volatile than portfolio equity investments (such as country funds, foreign depositary receipts, and foreign purchase of shares). Expressions of interest by private promoters and by governments are outpacing the number of completed deals, and private direct investment funding is more readily available than long-term debt. The past few years have witnessed the creation of numerous private funds devoted to infrastructure investment, either for specific sectors or specific regions. But there have been few disbursements, reflecting the shortage of bankable projects and prohibitively high cost of long-term debt finance.

26. To break the logjam of potential transactions and to capture the desired benefits of private financing for developing countries, several constraints and preconditions must be addressed. These imply complementary, not sequential actions:

- **Ensure macro stability.** A basic precondition for mobilizing any significant private funding, domestic or foreign, is macroeconomic stability—including low inflation and a relatively stable exchange rate. This in many cases requires reductions in public sector expenditure, particularly by eliminating the open-ended burden of subsidizing inefficient infrastructure services, such as power, railways, public transport, and water supply.
- **Fix the policy and regulatory framework.** The critical constraints in the policy and regulatory framework affecting the sector must be alleviated. At the most basic level, this involves creating a suitable legal framework for business practices, including to ensure contract enforcement, promote competition, and put public providers on a level playing field with private operators. For infrastructure, the reform agenda is especially demanding: it includes creating a predictable, nonpolitical tariff regime, restructuring the sector to permit competition as appropriate, and creating the necessary regulation—either through contractual arrangements or statute—to promote good performance of operators when competition is weak or absent.

- ***Streamline processes and controls.*** Potential private investors often confront a maze of detailed administrative and regulatory controls on matters ranging from foreign exchange to the choice of technology and the use of labor. The necessary decisions of government counterparts may be subject to bureaucratic delays. Governments need to reduce these transactions costs by streamlining mechanisms for processing investment proposals, and by moving from the prolonged, project-by-project negotiation of individual contracts toward reliance on more transparent, standardized conditions that can be applied to all potential investors. The use of model contracts and standard bidding documents, and the development of cross-sectoral concession laws (as recently done in Hungary and Chile) are measures that can reduce the costs and time involved in transactions.
- ***Unbundle and reallocate risks.*** In traditional infrastructure finance, the public sector has assumed all the risks—actual and perceived. Since many of these are not reflected in the cost of sovereign financing, public borrowing often appears less expensive initially but may entail larger claims on public resources later. It is critical to identify the risks governments should bear—such as ensuring the policy regime and the performance of public partners—and to place on the private partner the commercial risks, including project performance and market demand. This "unbundling" of risks permits specific risks to be mitigated and any instruments of comfort, such as guarantees, to be narrowly targeted—reducing the price premium on private financing and lowering the government's contingent liabilities.
- ***Attract private financing.*** To mobilize private funding requires well-designed financing strategies. Foreign and domestic sources of finance will need to be tapped, but economies have limited capacity to obtain funds from abroad, especially debt finance. And balance of payments constraints mean that an ongoing infrastructure program will normally need to be sustained by domestic funds. Institutional investors, such as pension funds, may become the main source of long term credit. In some countries, restrictions on the investment funds may need modification to permit this.

27. ***The role of the public sector.*** The public sector is now—and for the indefinite future in most countries will continue to be—the main source of funding for most infrastructure projects. This is particularly so in roads, sanitation, water works, general-use railways, ports and airports, urban transit, power transmission, and large-scale generation. Some developing countries may also choose to retain a dominant public role as sponsor of infrastructure, as many industrial countries have done. Japan, Singapore, Korea, and western European countries have developed infrastructure within the framework of public financing by emphasizing commercial practices. They have relied on realistic tariffs or user charges (with well-defined subsidies, if any, limited to distributional objectives). And they have given financial autonomy to providers, permitting them to raise investment funds from capital markets. Some countries have established special infrastructure banks or funds, and Japan has mobilized long-term investment resources through postal savings. But there is wide scope for misallocation when such public sector funds are allotted on political rather than economic terms.

28. The government has two fundamental responsibilities in infrastructure. The first is to create a sound environment for the efficient mobilization and allocation of resources, whether from the private sector or the public. The second is to correct for market failures—by ensuring that resources are directed to essential activities that may not be sufficiently attractive to private finance, preventing the abuse of monopoly power, protecting access of the poor to essential services, and correcting for such externalities as environmental impacts.

29. Governments' first concern should be to ensure the basic conditions for mobilizing infrastructure finance as outlined above—in particular, macroeconomic stability, appropriate tariff policy, and reduction of unnecessary risk factors. However, even with sound policies in these areas, many developing countries do not yet have domestic capital markets to raise investment funds, and some governments are not sufficiently creditworthy for external borrowing. Such countries can still attract private investments for their most urgent (and commercially profitable) projects. The Philippines' success in developing private power generation strengthened its domestic capital markets and enhanced its creditworthiness. Creating a few small, well-structured private projects can have a strong demonstration effect for potential private investors and build credibility for reform.

30. Even with a favorable environment for private finance, governments need to design appropriate public resource mobilization strategies for the development of infrastructure not amenable to cost recovery. When direct user fees are difficult to collect (rural roads) or when the social benefits of providing services exceed the private benefits (sanitation), some public financing will be appropriate. To the extent possible, such activities should be financed from charges or taxes paid by the community that receives most of the benefits—as with property taxes to finance local improvements. To ensure adequate investment occurs in socially useful but financially unprofitable activities, subsidies are often justified but should be provided in ways that encourage cost efficiency and do not require the government to incur construction and operating risk. For example, a concession can be awarded to the bidder requiring the least subsidy to deliver a specified service.

31. For some activities, revenues are most efficiently mobilized through taxation. For example, in many countries, a share of fuel and vehicle tax revenues is designated as road user charges and finances road maintenance. Although formal earmarking limits fiscal flexibility, in some countries it may be a necessary measure to ensure that high-return maintenance activities are adequately funded. It is critical that earmarked funds are managed to ensure efficient use and accountability—as through road boards that involve broad-based participation of users and other stakeholders.

32. Many countries are devolving expenditure responsibilities for local or regional infrastructure services to local or regional governments. To ensure that this shift leads to more effective resource allocation, the fiscal authority to mobilize revenues for these services needs to be assigned as well. And it is important that mechanisms of public financing—such as intergovernmental transfers and official external finance—foster incentives to direct adequate funding to maintenance, not just to new investment.

33. Whether an infrastructure service is financed by tariffs and user charges or by public taxation, ensuring access for the poor is a distinct, and important, policy issue—especially for such basic services as clean drinking water, environmentally safe sanitation, public transport, and "lifeline" levels of domestic energy or public telephones. The prevailing mode of public enterprise delivery of many infrastructure services, including their low cost recovery, is often rationalized as a way of ensuring widespread availability and affordability. The performance of these entities has too often shown them to be serving and subsidizing the better-off users, while the poor typically have little access to public service and incur higher expenditures to meet their needs from alternative sources.

34. Lowering service charges for all users is therefore inefficient, inequitable, and fiscally unsustainable. Governments need instead to promote competition, operational efficiency, and user responsiveness by suppliers as the most effective means of extending services to the poor. Where particular user groups are unable to pay for essential services, subsidies are best targeted to them, or

tariffs structured so that the basic levels of consumption are affordable—as through “increasing block” power and water tariffs. Chile has an exemplary scheme of targeted subsidies for water supply.

35. When communities finance and provide their own infrastructure—as when rural and urban settlements install and operate wells, low cost sanitation, local roads, and power generators—the requirements for sustained success are also demanding. Experience shows that there must be broad-based participation of the community from the earliest stage in choosing the technology and in sharing the financing or contributing in kind. The support of government or nongovernmental organizations, through technical assistance, training, or limited credit subsidies is often important.

36. Governments also have the responsibility to ensure that infrastructure promotes environmentally sustainable development and to minimize the adverse consequences of infrastructure expansion. Environmental concerns, including public safety, can be met by a variety of instruments: the participation of government agencies in the initial planning and public discussion of proposed investments; carefully defined subsidies for certain environmental improvements; and regulatory measures, particularly those that *give service providers and users economic incentives favoring good environmental outcomes*. The assembly of sites and rights-of-way for infrastructure frequently displaces people. Of the 146 World Bank projects involving resettlement between 1986 and 1993, more than three quarters were infrastructure projects. Resettlement is most successful when needs are addressed early and plans are modified to minimize displacement.

37. *Donor policies.* What does this reform agenda mean for international donors? Their policies and practices need to shift from a focus on financing new facilities to maintaining existing infrastructure and fostering institutional reform. Bilateral aid, in particular, is often subject to full or partial tying of aid, reducing its effectiveness. In recent years, between two-thirds and three-quarters of official development assistance for infrastructure has been fully or partially tied, compared with less than 20 percent for official development assistance going to areas other than infrastructure. Reforms and practices that build long-term sustainability of infrastructure and strengthen the governments’ capacity to cooperate in new ways with the private sector may require changes in the form and duration of support from donors. The Sub-Saharan Africa Transport Policy Program is an example of collaboration among donors and recipient governments for road sector reform, railway restructuring, road safety, and urban transport—linked to coordinated financial support for long-term development programs.

## ROLES FOR THE BANK AND THE FUND

38. The Fund and the Bank Group are important in promoting the stable economic policy environment and suitable policy framework needed to sustain the financing of infrastructure and deliver its benefits. Infrastructure projects are typically large, take a long time to construct, and produce returns over many years. Economic stability eases the financing requirements of such long-lived projects by reducing their risk and promoting the availability of domestic funds for longer term investments.

39. Sound macroeconomic and structural policies—such as those promoted by the Fund and Bank Group in the fiscal and monetary areas; an open exchange, trade, and investment regime; efficient banking and financial systems and factor and goods markets—are thus important in establishing the environment to support longer term investments and critical to fostering the growth of private involvement in infrastructure. Such policies increase the developmental impact of infrastructure—studies have found that poor economic policies can reduce the returns to infrastructure projects by half or more. Sound policies also promote adequate maintenance so that infrastructure facilities are not subject to rapid

deterioration, even during periods of economic adjustment when investment in new facilities may be curtailed.

40. Bank Group members have common objectives in infrastructure—to improve sector policies, increase efficiency, facilitate financing, and increase private sector involvement. But each member of the group has different instruments to achieve these objectives. The rapidly changing situation in infrastructure—the growth of demand for investment, the growth in private financing, and the increasing role of the private sector in provision—is requiring the members of the Bank Group to join forces to increase their catalytic role. The Bank Group's share of overall infrastructure financing is less than \$10 billion a year, or less than 5 percent of total infrastructure investment in developing countries. To increase its impact, this lending must leverage additional investment and be accompanied by policy reforms that improve sector performance.

41. *IBRD/IDA*. Across all infrastructure sectors, IBRD/IDA lending and policy advice will foster the development of core policy, regulatory, and legal frameworks to facilitate commercial principles of operation and private sector involvement in infrastructure. IBRD/IDA is also supporting domestic capital market development, which has an important role in financing growing investment needs. In infrastructure sectors where commercial provision is most straightforward (as in telecommunications and power), IBRD/IDA lending and policy advice aims to facilitate the transition to greater private sector provision, increased competition, and a reduced government role in direct service provision and management. Policy advice focuses on the development of appropriate sector policy frameworks and on the formulation of regulatory frameworks for economic, environmental, and safety objectives. For other sectors (such as roads, water and sanitation) IBRD/IDA lending supports sector reform involving the application of commercial principles (including financial autonomy) to public service providers, broadened competition and private involvement where feasible and appropriate, and the involvement of users. Moreover, in low-income countries the Bank emphasizes capacity building programs to increase sector expertise and strengthen implementation of reforms.

42. In addition to helping countries reduce risk by formulating sound and transparent sectoral policies, the Bank expanded its Guarantee Program in late 1994 to mitigate the risk borne by debt finance. The program addresses policy risk (covering government nonperformance of sector policy commitments) and credit risk (covering longer term payments to extend the term of financing). These guarantees are partial, require government counter-guarantees (unlike MIGA and the IFC), do not cover equity (unlike MIGA), and are for new investment in countries that can borrow from the Bank. So far, partial risk guarantees have been used to help finance the Hub Power Project in Pakistan, and partial credit guarantees have been used to extend the financing term for the Yangzhou Thermal Power Project in China and the Leyte-Luzon Geothermal Project in the Philippines.

43. *IFC*. Finance for infrastructure is the fastest growing element in IFC's portfolio, accounting for nearly a quarter of new approvals. Much of this finance has taken the form of IFC participation in individual transactions (for power, telecommunications, transport, gas, and water and sanitation). IFC also participates in several infrastructure investment funds that mobilize resources from major financial centers for on-lending and equity investment. Recent activities to mobilize new sources of capital have involved underwriting international equity placements (for a power utility in India and a telecom company in Chile), co-managing the placement of international bonds (for a toll road in Mexico), and developing a pilot securitization program to package and sell a portion of its loan portfolio on the private market.

44. The activities of IFC have helped develop local capital markets through issuing equity on local stock markets, placing equity directly with such private financial companies as pension funds, placing debt financing with local commercial banks, and obtaining debt finance through locally issued bonds. IFC also advises governments on restructuring and divesting infrastructure utilities (the power sector in Trinidad and Tobago, Peru, and Colombia) and on regulatory frameworks.

45. *FIAS*. The Foreign Investment Advisory Service provides technical assistance and policy advice to developing countries that are seeking ways to increase private sector involvement in infrastructure finance and service provision. It analyzes country experience with foreign direct investment in infrastructure and advises countries on the policy, regulatory, and institutional framework required to promote and implement such investments. Most recently, FIAS has advised China on the policy and regulatory reforms required to speed up the implementation of private sector infrastructure projects.

46. *MIGA*. The Multilateral Investment Guarantee Agency encourages foreign investment in developing countries by providing political risk insurance against the risks of currency transfer, expropriation, and war and civil disturbance. *MIGA's guarantees cover equity and quasi-equity (e.g., both loans and loan guarantees by shareholders) investments and third party loans, and a counter-guarantee from the host government is not required.* Since beginning its operations in 1989, MIGA has issued over 130 guarantees in support of approximately US\$7 billion of foreign investment. Although the majority of these projects have been outside of infrastructure, in the past two years MIGA has seen a growing demand for guarantees from private investors in infrastructure. MIGA's Board of Directors has approved participation in power projects having a total cost of US\$3.6 billion in less than two years. In the second half of 1994, MIGA issued 28 guarantees totaling US\$312 million of coverage, of which infrastructure projects (all in power) accounted for 11 guarantees and one-third of that coverage. MIGA also provides investment marketing services to both investors and countries to promote private investment opportunities.

47. In the past, the Bank and the IFC pursued parallel investments in countries. Today and increasingly in the future, the trend is toward a fuller collaboration up-front among the Bank Group institutions to achieve more integrated and complementary programs—typically involving a mix of financing and guarantee programs. Jamaica's Rockfort power project combined IBRD financing with MIGA guarantees, and Honduras's Elcosa power project combined IFC financing with MIGA guarantees. A power project under preparation in the Dominican Republic is likely to combine Bank financing with a Bank guarantee of aspects of the country's policy framework for the power sector. The Uch power project in Pakistan is likely to involve financing from IFC and an IBRD partial policy risk guarantee. These collaborative efforts are attracting the interest of private investors, increasing the amount and term length of private financing in infrastructure projects, and increasing the leverage of the Bank Group's financing and policy advice.

