

## Private Infrastructure

### Are the Trends in Low-Income Countries Different?

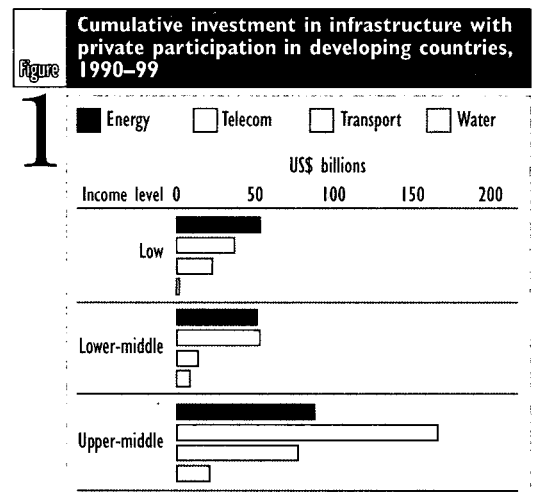
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The PPI Project Database tracks infrastructure projects newly owned or managed by private companies that reached financial closure in 1990–99 in energy (electricity and natural gas transmission and distribution), telecommunications, transport, and water. See page 2 for more information on the database.

This Note, based on the World Bank's Private Participation in Infrastructure (PPI) Project Database, reviews trends in infrastructure projects with private participation in low-income countries. Four main conclusions arise. Surprisingly, the proportion of countries with at least one project—81 percent—is higher among low-income than middle-income countries. As in middle-income countries, most investment has been in telecommunications or energy projects. However, in low-income countries, well over half the projects are greenfield. And the scale of private participation in low-income countries lags far behind that in middle-income countries (figure 1).

Since 1990, a growing number of low-income developing countries have encouraged private operators in infrastructure.<sup>1</sup> Between 1990 and 1999, the proportion of low-income countries with at least one private infrastructure project grew from nearly 20 percent to more than 80 percent—50 countries (table 1), exceeding the percentage of lower-middle-income countries (77 percent). Investment in projects with private participation in low-income countries rose almost every year during the 1990s and peaked in 1997 at US\$33.6 billion, almost as much as the US\$35.1 billion invested in lower-middle income country projects that year (figure 2).

After 1997, investments fell, mainly because of the financial crisis in East Asia. Although



Source: PPI Project Database.



Box **PPI Project Database: project criteria and database terminology**

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**Database coverage:**

- Projects that have reached financial closure and directly or indirectly serve the public.
- Projects in electricity, natural gas (transmission and distribution), telecommunications, transport, and water sectors, but not movable assets, incinerators, stand-alone solid waste projects, and small projects such as windmills.
- Low- and middle-income developing countries in 1999, as defined and classified by the World Bank.

**Definition of private participation.** The private company must assume operating risk during the operating period or assume development and operating risk during the contract period. A foreign state-owned company is considered a private entity.

**Definition of a project unit.** A corporate entity created to operate infrastructure facilities is considered a project. When two or more physical facilities are operated by the corporate entity, all are considered as one project.

**Project types**

- Operations and management contract. A private entity takes over the management of a state-owned enterprise for a given period. This category includes management contracts and leases.
- Operations and management contract with major capital expenditure. A private entity takes over the management of a state-owned enterprise for a given period during which it also assumes significant investment risk. This category includes concession-type contracts such as build-transfer-operate, build-lease-operate, and build-rehabilitate-operate-transfer contracts as applied to existing facilities.
- Greenfield project. A private entity or a public-private joint venture builds and operates a new facility. This category includes build-own-transfer and build-own-operate contracts as well as merchant power plants.

- Divestiture. A private consortium buys an equity stake in a state-owned enterprise. The private stake may or may not imply private management of the company.

**Definition of financial closure.** For greenfield projects, and for operations and management contracts with major capital expenditure, financial closure is defined as existence of a legally binding commitment of equity holders or debt financiers to provide or mobilize funding for the project. The funding must account for a significant part of the project cost, securing the construction of the facility. For operations and management contracts, a lease agreement or a contract authorizing the commencement of management or lease service must exist. For divestitures, the equity holders must have a legally binding commitment to acquire the assets of the facility.

**Recording investments.** Investments, privatization revenues, license fees, and canon commitments generally have been recorded on a commitment basis in the year of financial closure (for which data are typically readily available). Actual disbursements have not been tracked. Where privatizations and new investments are phased and data were available at financial closure, they are recorded in phases. When license fees and canon commitments were due over the concession period, their net present values were recorded in the year of financial closure.

Sources: World Wide Web, commercial databases, specialized publications, developers, sponsors, and regulatory agencies.

Web site: <http://www.worldbank.org/html/fpd/privatesector/PPIDBweb/Intro.htm>

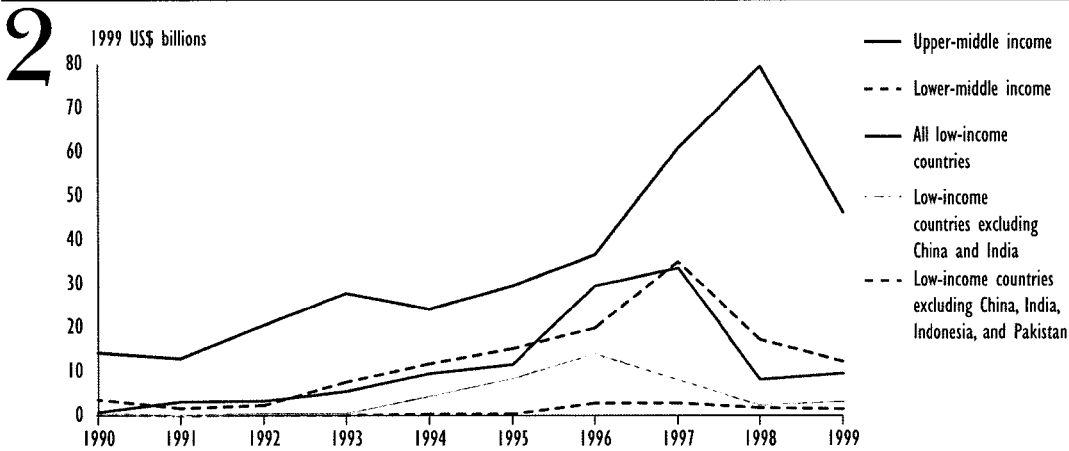
Contact: The database is maintained by the Private Provision of Public Services Group of the World Bank. For more information, contact Shokraneh Minovi at 202 473 0012 or [sminovi@worldbank.org](mailto:sminovi@worldbank.org)

Table **Percentage of developing countries with infrastructure projects involving private participation, by income group and region, 1990–99**

Income group	Sub-Saharan Africa	East Asia and Pacific	Europe and Central Asia	Latin	Middle	South Asia	All regions
				America and the Caribbean	East and North Africa		
Low	76	100	83	100	100	67	81
Lower-middle	67	70	86	81	67	100	77
Upper-middle	80	50	88	73	80	N/A	76
<b>All income groups</b>	<b>76</b>	<b>77</b>	<b>86</b>	<b>79</b>	<b>73</b>	<b>75</b>	<b>78</b>

N/A Not applicable.  
Source: PPI Project Database.

**Figure 2** Total investment in infrastructure projects with private participation in developing countries, by income group, 1990–99



Source: PPI Project Database.

investment in projects with private participation in upper-middle income countries continued to rise in 1998, partly lifted by the major telecommunications privatization in Brazil, by 1999 investment was below its peak for all income groups.

### Greenfield projects predominate

Greenfield projects predominate in developing countries, particularly in lowest-income countries. They account for 65 percent of projects in low-income countries compared with 37 percent for developing countries as a whole, mainly because low-income countries have so little infrastructure in place.

Greenfield projects are common in the telecommunications sector, especially for new wireless technologies, and the energy sector, where non-sovereign guarantees encourage private investment in new infrastructure. In low-income countries, only 21 percent of projects involve operations and management contracts with major capital expenditure—a small proportion compared to upper-middle-income countries—and more than half such projects are in China. There are also fewer divestitures and operations and management projects in low-income countries, though twice as many low-income as upper-middle-income countries have at least one operations and management project.

### Fastest growing sectors

In low-income and middle-income countries, private participation is concentrated in telecommu-

nications and energy. If all developing countries with at least one project are taken as a group, telecommunications receives a higher percentage of total investment than energy. In low-income countries, however, the percentage invested in energy is higher (46 percent) than telecommunications, and in lowest-income countries it is higher again at 50 percent (see figure 1).

Investment in the energy sector in low-income countries increased rapidly during the 1990s, exceeding that in lower-middle-income countries but not in upper-middle-income countries. Only nine lowest-income countries have energy projects with private participation, even though energy receives 50 percent of investment in this income group. The number of low-income countries implementing private telecommunications projects rose from 3 in 1990 to 40 (65 percent of this group) in 1999. Of the 29 lowest-income countries, 19 had private telecommunications projects by 1999. Most of these projects use low-orbit satellites and wireless technology.

Private water and sanitation projects have been rare in low-income countries: 30 such projects were implemented in six countries (four in Africa, two of which are in the lowest-income group) in 1990–99 with a total investment of US\$1.8 billion (only 2 percent of projects with private participation in low-income countries). Most of the earliest private water projects were operations and management contracts involving little or no investment risk on the part of the private operator. (Private operators play a significant role in small-scale water

and sanitation projects in a number of developing countries, but because they do not operate under formal government contracts and they are small they are not included in the PPI Project Database.)

In the transport sector, 20 low-income countries (32 percent) implemented over 190 projects with total investment of US\$23 billion between 1990 and 1999. Eighteen were in lowest-income countries with a total investment of US\$594 million. China, with 116 projects, accounts for 75 percent of private transport investment in low-income countries (US\$17.2 billion).

#### Four countries dominate

Countries in Latin American and the Caribbean invested nearly US\$300 billion in projects with private participation from 1990 to 1999. Only three of the countries involved were low-income and none were lowest-income. By contrast, Sub-Saharan Africa has the largest number of low-income countries (78 percent are low-income and 43 percent are lowest-income) and received only 2 percent of investment. Nevertheless, three-quarters of low-income countries in Sub-Saharan Africa have implemented at least one project since 1990 (see table 1).

About two-thirds of investment in low-income countries went to the two largest countries in the group, China and India. Figure 2 compares the trends in investment in 1990–99 for the whole group and for the group excluding China and India. The difference is particularly striking in 1997, when investment continued in China but fell in other East Asian countries because of the financial crisis. Investment in China and India fell sharply during 1998, but started to rise again in 1999. Two other low-income countries, Indonesia and Pakistan, also exhibit levels and types of investment similar to middle-income countries. These four countries are among the ten developing countries, of all income groups, with the highest investment in projects with private participation in 1990–99.

#### Conclusion

Most low-income countries have some form of private participation in at least one sector, and the proportion is even higher among lowest-income countries. Four low-income countries stand out as being most like developing countries in the aggre-

gate. China, India, Indonesia, and Pakistan all have projects with private participation in at least three infrastructure sectors (India and Pakistan do not have projects in water and sanitation) and together account for 91 percent of investment in low-income countries. Countries that have experimented with private participation in one infrastructure sector now need to allow greater private entry to reap the efficiency and service rewards being reported for projects in many developing countries.

#### Notes

1. Income groups are defined in World Bank 2000 in terms of 1998 GNP per capita: low-income, US\$760 or less; lower-middle income, from US\$761 to US\$3,030; upper-middle income, from US\$3,031 to US\$9,360; and high income, US\$9,361 or more.

This Note defines another group—lowest-income countries—as those whose 1998 per-capita GNP was less than US\$365. They are: Angola, Bangladesh, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Kyrgyz Republic, Lao People's Democratic Republic, Madagascar, Malawi, Mali, Mozambique, Nepal, Niger, Nigeria, Rwanda, Sierra Leone, Tajikistan, Tanzania, Togo, Uganda, Vietnam, Yemen Republic, and Zambia. For a full breakdown of all countries by income group classification, see World Bank 2000, pages 290–91.

#### References

World Bank. 2000. *Entering the 21st Century: World Development Report 1999–2000*. New York: Oxford University Press.

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## viewpoint

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