

# GRID LINES

Sharing knowledge, experiences, and innovations in public-private partnerships in infrastructure

## Recent trends in private activity in infrastructure

### What the shift away from risk means for policy

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**I**n 2006, private participation in infrastructure continued its recovery for the third consecutive year from the steep downturn of the late 1990s. Activity was more evenly spread across all developing regions. However, it became more concentrated in less risky subsectors, reflecting a lower appetite for risk among private investors. Greater selectivity has facilitated private sector's renewed interest, but it also raises questions about how governments can best tap private operators' abilities in high-need, high-risk areas such as water and electricity distribution. Recent projects in these areas indicate that the public sector—together with the international financial institutions—remains the main source of investment funding. As governments create arrangements to attract private participation, they also need to ensure an equitable distribution of benefits among investors, taxpayers, and service users.

In 2006, investment commitments to infrastructure projects with private participation (hereafter, investments) in low and middle income countries grew by 10 percent in real terms, reaching \$114 billion. The increase, while modest, marked the third consecutive year of growth, confirming the reversal of the downward trend of 1998 to 2003. Investment in 2006 was just 20 percent below the 1997 peak and more than 70 percent above the 2003 level, the lowest of the past decade. Investments in physical assets (excluding payments to governments, such as concession fees or divestiture revenues) drove the recovery. In 2006, it amounted to \$90 billion, close to the 1997 peak.

Investment, however, has remained stable relative to gross domestic product (GDP) since 2003, averaging about 1 percent, down from a 1.5

percent average during 1996–2000. This stability mainly reflects the rapid growth of GDP in low- and middle-income countries in 2003–06. This suggests that recovery was driven at least in part by the need to expand capacity to keep up with demand for infrastructure.

Projects reaching financial or contractual closure increased in 2006 to around 270. This was 36 percent more than in 2002 (the lowest number of the past decade), but 25 percent less than the 1997 peak. Project size also grew: the median rose from \$20–40 million in 2002–05 to more than \$70 million in 2006.

In contrast with the 1990s, when new projects accounted for 70 percent of investment, investment in 2006 was divided between existing projects (52 percent) and new ones (48 percent). This has been a typical distribution since 2001.

### Telecom and transport lead the recovery

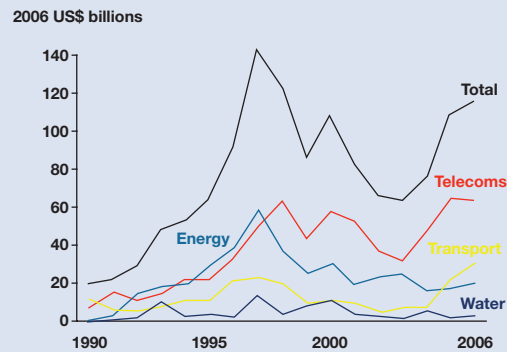
Telecommunications and transport drove growth in investments and transactions in 2006 (figure 1). Telecommunications, which has dominated investments claimed 55 percent of the total in

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**FIGURE 1**

**Telecoms dominant, transport growing fast**  
Investment commitments to infrastructure projects with private participation in developing countries by sector



Source: World Bank and PPIAF, PPI Project Database.  
Note: The investment data refer to commitments and include private and public contribution.

2006, \$63 billion. Investments in physical assets (network expansion) grew by 9 percent to \$52 billion, the highest investment level ever for the second consecutive year. There were 15 divestitures in 13 countries in 2005–06, up from three transactions in three countries in 2002–04, indicating a renewed interest in opening new markets.

Transport became the fastest growing sector in 2005–06. Investment doubled in 2005 and rose by another 30 percent in 2006, reaching almost \$30 billion.<sup>1</sup> The sector had fewer large transactions (those for more than \$800 million); these accounted for 35 percent of investment in 2006, down from 50 percent in 2005. Investments rose substantially in all four sub-sectors—airports, railways, roads, and seaports.<sup>2</sup> With these growths, investment in roads saw its share in total transport investment decline from roughly 50 percent in 1996–2004 to 30 percent in 2005–06. Investment in airports and railways went mostly to a few large projects, while investment in roads and seaports was more widely distributed.

Investment in energy amounted to almost \$20 billion in 2006, within the \$16–23 billion range prevailing since 2001. This represents a sharp drop from the peak of the mid-1990s. Electricity generation accounted for more than half the energy investment in 2004–06, as it did in 1990–2003. Moreover, it represented more than 70 percent of the investment in new projects in 2004–06, the highest share ever. Investment in generation

was focused on projects with limited commercial risk for private investors, such as new generation plants with long-term power purchase agreements (Tenenbaum and Izaguirre 2007).

Electricity distribution accounted for 12 percent of investment in 2001–06, though less than half went to projects that closed in that period. Most of the investment in new distribution projects related to divestitures in Eastern Europe and Central Asia, where accession to the European Union has been a key driver of reform.

Investment in water and sanitation has remained below \$2 billion every year since 2002 except 2004 (when the \$2.5 billion Syabas concession closed in Malaysia). Even so, the number of new projects was up in 2004–06; an average of 52 projects a year reached closure, the highest number since 1990. This pattern reflects the little or no investment in water projects, typical for management or *affermage* contracts. It also suggests that small private operators have entered the market.

Projects involving treatment plants became more common in 2006. These accounted for more than half the investment in water and more than 40 percent of the projects closed.

### More balanced distribution

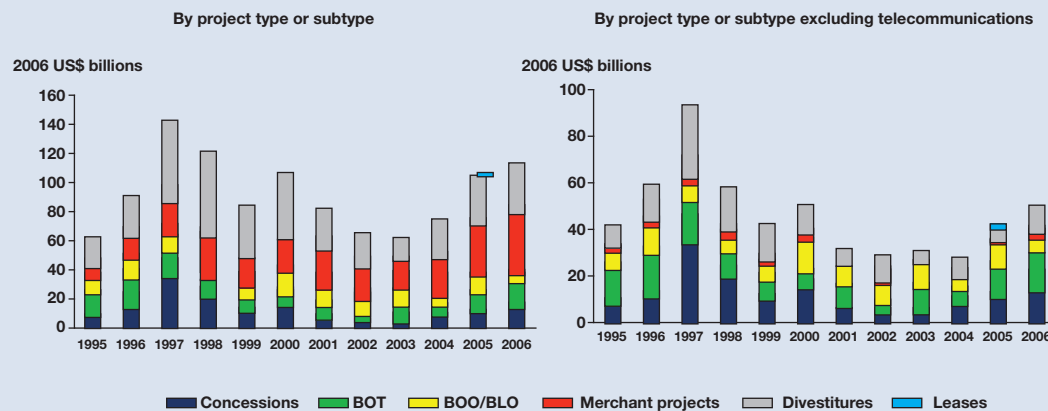
The 2006 data reveal three positive points. First, investment has become more evenly distributed across developing regions. Declining investment in Latin America and East Asia, the previous leaders, may initially have driven this trend. However, rapid investment growth in other developing regions has become more important since 2004. Europe and Central Asia had the largest share of investment in 2004–06 (25 percent). Latin America followed; then East Asia and South Asia. South Asia had about 16 percent in 2004–06, three times its share in 1996–2000. The Middle East and North Africa and Sub-Saharan Africa saw similar growth, though from much lower levels.

Second, investment has become more evenly distributed across country income groups.<sup>2</sup> Low-income countries' share grew from 7 percent in 1996–2000 to 23 percent in 2004–06, reaching new peaks every year in the later period. Many low-income countries saw increases, though India and, to a lesser degree, Nigeria and Kenya accounted for most of the growth. Lower-middle-income countries, which led the boom in private

## Private activity has become more evenly spread among regions and country income groups

**FIGURE 2****Private activity shifts toward contracts with lower risk**

Investment commitments to infrastructure projects with private participation in developing countries, 1995–2006



Source: World Bank and PPIAF, PPI Project Database.

Note: Investment data are for projects reaching closure in 1990–2006. BOT = build, operate, transfer. BOO = build, operate, own. BLO = build, operate, lease.

**Contracts reflect a lower appetite for risk among private operators**

activity in the 1990s, saw their share of investment decline by 17 percentage points to roughly 40 percent. That share nevertheless remains the largest. Upper-middle-income countries have maintained a steady share of about 36 percent.

Third, private activity has become somewhat less concentrated by country. The top 10 countries by investment attracted 70 percent of the total in 1990–2000 and 63 percent in 2001–03—but 58 percent in 2004–06. Moreover, the top 10 list has become more diverse. It now includes countries from all developing regions except the Middle East and North Africa. Other major changes between 1990–2000 and 2004–06: India leapt from eighth place to first, and the Russian Federation, Turkey, and Nigeria joined the top 10.

### Developing country sponsors lead

Private participation in infrastructure is no longer a business dominated by companies from developed countries. Firms from developing countries mobilized 44 percent of private funds for projects reaching financial closure in 1998–2006 (Schur et al 2008). There were also changes in the list of the 10 most active sponsors (ranked by investment). Only 3 of the top 10 sponsors in 1990–2000 were still among the top 10 in 2001–06, and 4 of the top 10 were developing country investors.

### Changes in project type

The recovery in investment in 2004–06 appears at first to include most types of private participation (figure 2). Nevertheless, a closer look at the data suggests a more nuanced picture. Only telecommunications had a recovery in the deepest forms of private participation—divestitures and merchant projects, where the private sector assumes most operational and commercial risks. Excluding that sector, the recovery was mostly in contracts that limit private involvement to the contract term and then return assets to the government. Concessions, build-operate-transfer (BOT) contracts, and lease contracts represented almost 60 percent of investment in 2004–06, 10 percentage points more than in 1996–2000.

The shift toward such contracts suggests a lower appetite among private investors for regulatory and political risk, as they reduce their long-term exposure in the market. In addition, BOT contracts limit commercial risk because they are normally accompanied by long-term purchase agreements (often with take-or-pay clauses) in the case of power or water treatment plants and by minimum revenue guarantees in the case of new transport facilities. Recently there has also been an increase in short-term power plant rental contracts in countries facing severe electricity shortages. In 2002–06 at least 18 such contracts were signed in 13 developing countries, mainly

in Africa, for periods of one to four years. These contracts usually involve much higher prices, more government guarantees, and less transfer of risk to the private sector than traditional BOT contracts with power purchase agreements.

Concession contracts are also evolving to reflect private partners' lower appetite for risk. During the 1990s concessions usually involved large investment commitments that the private operator were expected then to recoup from user fees or revenues. In contrast, concessions signed in 2001–06 include a mix of public and private funding of investment. This has been a trend in electricity and water but is now increasingly visible in transport. Of the 108 transport projects closed in 2006, at least 27 percent had government funding to cover part of the project cost or provide project revenues through availability payments, revenue gap payments, or shadow tolls.

Another sign of the lower appetite for risk is the increase in management and lease contracts, from 2 percent of projects in 1996–2000 to more than 4 percent in 2001–06. Under such contracts, the public sector retains much or all investment responsibilities and thus remains in charge of service expansion and the long-term sustainability of efficiency gains made under the contract.

## Conclusions

The recovery in private activity in infrastructure appears to be relatively robust, with investment more evenly distributed across countries and private sponsors more diversified. However, the recovery has been concentrated in less risky activities. Investment grew in areas with booming demand—in competitive markets (telecommunications) and in sectors crucial to competitiveness (transport). Investors also favored activities in which revenues can be secured through long-term contracts (generation or water treatment plants), rather than depending on payments from end users. In contrast, investment remained limited where social and political difficulties have hampered the introduction of cost-recovery tariffs (water

and electricity distribution). Another emerging trend is the use of a mix of public and private funds to finance investment programs while trying to ensure that user fees remain at socially and politically viable levels.

Selectivity has aided the revival of private participation in infrastructure. However, it has also raised questions about how governments can best tap private operators' abilities in the high-risk activities, such as water and electricity distribution. The public sector (and the international development institutions) remains a main source of investment funding in their areas. It also underscores the need to tap other resources, such as the private capital market. Indeed, public and official funding remains just a fraction of the resources needed to meet the demand for those services, particularly in low-income countries.

Where political or regulatory risk has proved to be too high to attract private equity investment, governments can still mobilize private sector expertise to improve performance of public operators. Where the private sector is investing alone or in partnership with the public sector, governments can choose among a range of contract designs that balance the distribution of risks and incentives to maximize private contributions while ensuring an equitable distribution of benefits among investors, taxpayers, and service users.

### Notes

1. The data are from the Private Participation in Infrastructure (PPI) Project Database (<http://ppi.worldbank.org>) and include projects in low- and middle-income countries that reached financial closure in 1990–2006. The data refer mainly to investment commitments (not disbursements). While the data here are in real terms adjusted by the U.S. consumer price index and with 2006 as the base year, those on the PPI Web site are in current U.S. dollars.
2. The PPI database includes light-rail and subway systems in the data for railways.
3. This note uses the World Bank country classification published in July 2006.

### References

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