

WORKING PAPER  
NO. 7

# Emerging Market Investors and Operators

## A New Breed of Infrastructure Investors

Stephan von Klaudy  
Apurva Sanghi  
Georgina Dellacha

Public Disclosure Authorized

Public Disclosure Authorized

Public Disclosure Authorized

Public Disclosure Authorized



**WORKING PAPER NO. 7, 2008**

**EMERGING MARKET INVESTORS  
AND OPERATORS  
A NEW BREED OF INFRASTRUCTURE INVESTORS**

**Stephan von Klaudy  
Apurva Sanghi  
Georgina Dellacha**

## **Public-Private Infrastructure Advisory Facility**

The findings, interpretations, and conclusions expressed in this *Working Paper* are entirely those of the authors and should not be attributed in any manner to the Public-Private Infrastructure Advisory Facility (PPIAF) or to the World Bank, to its affiliated organizations, or to members of its Board of Executive Directors or the countries they represent. Neither PPIAF nor the World Bank guarantees the accuracy of the data included in this publication or accepts responsibility for any consequence of their use. The boundaries, colors, denominations, and other information shown on any map in this report do not imply on the part of PPIAF or the World Bank Group any judgment on the legal status of any territory or the endorsement or acceptance of such boundaries.

The material in this publication is owned by PPIAF and the World Bank. Dissemination of this work is encouraged and PPIAF and the World Bank will normally grant permission promptly.

For questions about this report including permission to reprint portions or information about ordering more copies, or for a complete list of PPIAF publications, please contact PPIAF by email at the address below.

PPIAF  
c/o the World Bank  
1818 H. Street  
Washington, DC 20433  
Fax: 202-522-7466  
www.ppiaf.org  
Email: [ppiaf@ppiaf.org](mailto:ppiaf@ppiaf.org)

PPIAF produces three publication series:

*Trends and Policies*  
*Working Papers*  
*Gridlines*

They are available online at [www.ppiaf.org](http://www.ppiaf.org)

# TABLE OF CONTENTS

<b>ABBREVIATIONS AND ACRONYMS</b> .....	v
<b>OVERVIEW AND SUMMARY</b>	
Introduction .....	1
Background .....	1
The Extent of EMIO Involvement .....	2
Sector Involvement and Types of Projects .....	3
Regional Involvement .....	3
Conclusions .....	4
<b>KEY FINDINGS OF THE SURVEY</b>	
Years of Experience .....	5
Corporate Organization .....	6
Capital Structure .....	6
Types of Projects .....	6
Strategic Decisions .....	6
<b>CONCLUSIONS</b> .....	11
Lessons and Topics for Future Consideration .....	15
<b>ANNEXES</b>	
1. Summary of Methodology .....	16
2. Questionnaire .....	17
3. Field Interviews .....	27
<b>BIBLIOGRAPHY</b> .....	34
<b>BOXES</b>	
1. Creation of EMIO Growth Opportunities, India .....	11
2. EMIOs Moving Up the Value Chain, Bharti, India .....	12
3. Infrastructure Finance, India .....	14
<b>FIGURES</b>	
1. Number of Years in Infrastructure .....	5
2. Financing Structure .....	6
3. Distribution of Project Types .....	7
4. Distribution of Project by Investment Amount .....	8
5. Motivation Factor for Entering a Project, Infrastructure Investment .....	9
6. Risk Perception .....	10
7. Future Plans .....	10
8. Sector-wise Share of Total Revenue (FY07) .....	31

---

## ACKNOWLEDGEMENTS

---

Stephan Von Klaudy was a lead infrastructure specialist in the World Bank's Sustainable Development Network Vice Presidency, while writing this document. He is now retired. Apurva Sanghi is senior economist in the World Bank's Global Facility for Disaster Reduction and Recovery. Georgina Dellacha is an external consultant and has contributed on several occasions with PPIAF and the World Bank Finance, Economics and Urban Department.

The authors would like to thank Clemencia Torres de Mästle for her detailed comments on the various

drafts, and Nataliya Pushak for her diligent assistance with updating the data.

This report summarizes the finding of a larger document, based on a study by Pricewaterhouse Coopers (PWC), independent consultants for the World Bank. The team of consultants from PWC included Kameswara Rao, Dario Quiroga, Horacio Guillermo Yenaropulos, Adriana Elizalde, Dipesh Dipu, Shirley Priscilla, and Julia Domeniconi. The full document, including the detailed field interviews, are available on line at:

[http://www.ppiaf.org/documents/other\\_publications/  
Emerging\\_Market\\_Investors\\_Operators\\_in\\_Infra.pdf](http://www.ppiaf.org/documents/other_publications/Emerging_Market_Investors_Operators_in_Infra.pdf)

---

## ABBREVIATIONS AND ACRONYMS

---

\$	US dollar ( <i>All amounts are US dollars unless otherwise indicated</i> )
BOO	Build-operate-own
BOT	Build-operate-transfer
EMIO	Emerging market investors and operator
DCIO	Developed country investors and operator
EPC	Engineering, procurement, and construction (contract)
FDI	Foreign direct investment
IPP	Independent power providers
MIGA	Multilateral Investment Guarantee Agency
MT	Million tons
MW	Megawatt
PPIAF	Public-Private Infrastructure Advisory Facility
PPI	Private participation infrastructure
PPP	Public-private partnerships

---

## OVERVIEW AND SUMMARY

---

### *Introduction*

Emerging market companies, driven to seek global business opportunities, are in the limelight thanks to the business media reporting on the phenomenon of this new breed of investors.<sup>1</sup> By 2006, foreign direct investment (FDI) from developing economies reached \$174 billion, 14 percent of the world's total, when in 1990, emerging economies accounted for just 5 percent of the flow.<sup>2</sup> The infrastructure sector is part of this phenomenon—with its new players competing with long-established multinational corporations. For example, NetGroup Solutions, South Africa won the Tanesco management contract in Tanzania; Alusa Engenharia, Brazil secured three electricity transmission projects; and GMR Group, India won the 20-year concession for Istanbul's Sabiha Gokcen International Airport against world-known players: Chicago Airport and Fraport AG. These high-profile transactions motivated a study to assess the extent of the involvement of these local and regional newcomers.

This working paper focuses on the results obtained from a two-phase study conducted to better understand the degree to which emerging market investors and operators (EMIOs) are involved in providing infrastructure services, their characteristics, and the trends observed as a result of their involvement. EMIOs are defined as either being domiciled/incorporated in low-or middle-income countries, or majority owned/controlled by a company from a low-or middle-income country.<sup>3</sup> The first phase of the study is based on medium- to large-investors captured in the Private Participation

in Infrastructure (PPI) database.<sup>4</sup> The study shows that EMIOs are a major source of investment finance.<sup>5</sup>

From 1998–2006, these EMIO accounted for 44 percent of the total investment volume of projects that achieved financial closure. In some sectors, for example, transport, these EMIO accounted for more investments than those from developed country investors and operators (DCIOs).<sup>6</sup>

The second phase of the study captures the results of an online survey/questionnaire completed by a group of 60 volunteer EMIO, along with information gathered during field interviews with a select group of EMIO from Latin America and the Caribbean, and South Asia. The field interviews were limited to companies from those two regions because of their expressed interest to participate in the study.

The findings of the study open both opportunities and challenges to policy-makers in developing countries. The opportunities arise from a broader choice of investors offering better chances to tap a wide-variety of financing sources. The challenges lie in the question of whether, and, to what extent, this phenomenon requires policy-makers to rethink the criteria used in selecting investors in schemes for private participation—criteria that are seen as biased toward large international operators.

### *Background*

In the early 1990s, after decades of poor performance by the public sector, developing countries increasingly sought to involve the private sector in providing infrastructure services through widespread privatization, deregulation, and structural reform. The efforts proved fruitful. During this period, developing countries saw investment commitments of nearly \$755 billion in more than 2,400 public-private

---

<sup>1</sup> The Economist. January 10, 2008.

<sup>2</sup> UNCTAD. World Investment Report 2006

<sup>3</sup> For the purpose of this analysis, a country is an “emerging market” if it falls under the low- and middle-income category in the World Bank’s country classification.

Conversely, a country is considered “developed” if it falls under the high income category. Consequently, companies headquartered in countries such as China (Hong Kong), Singapore, Taiwan, and certain Gulf states are considered “developed country companies”. For a complete list; see [http://www.worldbank.org/data/countryclass/classgroups.htm#High\\_income](http://www.worldbank.org/data/countryclass/classgroups.htm#High_income)

---

<sup>4</sup> The PPI database captures investment from sponsors that hold at least 15 percent equity in the project.

<sup>5</sup> The introduction, background, and summary of Phase I of the study are adapted from Schur and others (2006).

<sup>6</sup> Under the methodology of the analysis, total investment volumes for projects were allocated *pro rata* to the ownership shares of companies.

partnerships (PPPs) in infrastructure.<sup>7</sup> Large corporations from developed countries played a big part in this wave of activity. Among the most active companies were: AES Corp, Electricité de France, Enron, Suez, Veolia, Telefónica, France Telecom, and Deutsche Telekom.

But the optimism evident early in the decade was dimming by its end. An estimated 40 percent of the contracts for infrastructure projects were renegotiated.<sup>8</sup> Many multinational investors began reducing their exposure in developing countries, leaving behind around 153 canceled or distressed projects over the period 1990–2006.<sup>9</sup> In a 2002, a survey of 65 international investors in the power sector, showed that about half of them reported being less interested in, or retreating from developing countries (Lamech and Saeed 2003). Despite the souring mood, new players from developed countries emerged. In the water sector, for example, they included: Aquamundo, Germany; Acea, Italy; Aguas de Bilbao, Spain; Aguas de Portugal; and municipal water utilities from France, and Germany (Harris 2003). But these companies engaged far less in developing countries than their earlier counterparts.

Meanwhile, local and regional investors and operators from developing countries became more prominent.<sup>10</sup> In Eastern and Southern Africa companies like NetGroup, South Africa; and Electricity Distribution Management, Namibia sought to extend their experience in low-cost rural electrification projects into broader investment and management opportunities (for example, NetGroup won the Tanesco management contract in Tanzania). In 2004, Alusa Engenharia, Brazil engaged in three electricity transmission projects in Brazil; and Chilean groups Solari, Luksic, and Consorcio Financiero were the lead sponsors in five of six water concession contracts secured in Chile. In the same

year, the Indian consortium of Rites and Itron International won the contract for restoring and managing Mozambique's Beira rail system. In 2006, Indian Lanco Group and GMR Group each invested in five new projects in electricity and transport sectors (respectively); Chinese Chongqing Kangda Environmental Protection Co. Ltd. committed to invest in six water treatment plants; and Russian Rosvodokanal committed about \$0.4 billion into three water utilities—all in their own countries.

This anecdotal evidence suggests that emerging market investors have improved their position and are taking on a larger share of infrastructure investments. Three possible reasons can explain this trend. First, the growing experience of these firms with infrastructure investments, often as minority partners with developed country investors, has given them more expertise. Second, these companies might be better positioned to understand, and, therefore, deal with issues related to the political economy in infrastructure projects in developing countries. Third, the broadening and deepening of capital markets in developing countries has enabled investors to mobilize more resources.

The evidence and assumptions outlined above justify undertaking an analysis to better understand the role of DCIOs and to explore the policy implications from which it emanates. The Public-Private Infrastructure Advisory Facility (PPIAF) financed two studies; the objective of the first study was to assess the extent of the involvement of investors and operators; and the second study's objective was to obtain qualitative information on the main characteristics of the investors and operators, and strategic information on their perceptions and motivation for their involvement.

### *The Extent of EMIOs Involvement*

The study showed that EMIOs have become a major source of finance for infrastructure projects in developing countries. For projects reaching financial closure in 1998–2006, these investors mobilized about 44 percent of the private funds. The majority (32 percent) came from local companies investing in projects in their own country (developing local investors); of the rest (12 percent), almost all came from investors from nearby countries (together with cross-regional investors, and developing foreign investors).<sup>11</sup> On the whole, the review reveals a

---

<sup>7</sup> Data are from the PPI project database ([ppi.worldbank.org](http://ppi.worldbank.org)), which includes projects only in low- and middle-income countries, as classified by the World Bank. Country classifications and project information are updated annually. Investment figures in this sentence are in 2004 dollars.

<sup>8</sup> Excluding contracts in the telecommunications sector (World Bank, Private Sector Advisory Services 2003).

<sup>9</sup> Canceled projects are those in which private sponsors sell or transfer their economic interest back to the government; remove all management and personnel; or cease operation, service provision, or construction. Distressed projects are those under international arbitration or for which cancellation has been formally requested.

<sup>10</sup> Examples here are from Harris (2003), updated to take account of recent changes.

---

<sup>11</sup> The calculation of investment shares assumes that each investor accounts for a share in total investment that is equal to its share in equity.

gradual shift of interest from DCIOs to EMIOs in infrastructure projects. At the same time, there were striking differences in the level and pattern of participation by EMIO across types of projects, sectors, and regions.

### ***Sector Involvement and Types of Projects***

EMIOs contributed more than half of the private investment in concessions in 1998–2006, half in BOTs and other greenfield projects, but a much smaller share in divestitures. In 1998–2006 EMIOs accounted for as much as 58 percent of the private investment in the transport sector, 45 percent in the telecommunications sector, 40 percent in the water sector, and a slightly lower share of 34 percent in the energy sector. In the transport sector, the large share typically reflects a relatively high number of local construction contractors, while in the telecommunications sector it reflects mainly the investments of a few large firms such as America Movil and Telmex, Mexico; Telemar Participacoes SA, Brazil; and MTN, South Africa. The energy sector remains dominated by large utility firms from developed countries, while the emerging market players that have emerged tend to secure contracts for relatively small power systems.

The transport sector's share of private investment from emerging market investors is on the rise; whereas the trends in other sectors are more volatile. Within transport, the airports sector has seen the emergence of investors from developing countries as major players. The last four airport contracts in India were won by consortia in which local companies were the leading partners (Larsen and Toubro Ltd, the GMR Group, and GVK Group), and Malaysia Airport Holdings has invested in two of these. Turkey's TAV Airports Holding recently won a concession to operate two airports in Tunisia. Argentina's AA2000 indirectly manages airports in Armenia, Ecuador, and Uruguay. In addition, entirely local consortia recently won contracts in Colombia (Bogotá-El Dorado Airport) and Pakistan (Sialkot International Airport).<sup>12</sup> It is difficult to determine the exact reasons for the volatile trends observed throughout 1996–2006.

Except for the telecommunications sector, the share of EMIOs dropped for all sectors during 2001–2002. Noticeably, this share fell to 10 percent for energy in 2002, and then recovered quickly to a high of 58 percent the following year. In 2002, this plunge in

the EMIOs' share is, to a great extent, explained by large investment commitments made by three developed country sponsors: RWE, and EON of Germany; and Gaz de France—totaling \$8.2 billion or 46 percent of all 2002 energy sector investments. In 2003, however, the largest investment commitments were made by two developing country sponsors: Farsighted Investment of China and Malakoff Bhd. of Malaysia. These companies each committed more than \$2 billion in 2003, accounting for 25 percent of 2003 energy sector investment commitments.

The water sector experienced a rising trend over 2001–2004, explained in part by the involvement of local sponsors in several concession contracts awarded in Chile. Conversely, the slightly downward trend in the telecommunications sector after 2002, can be explained by the increased participation of the developed country investors from Kuwait and the United Arab Emirates, in the acquisition of licenses to provide mobile services in Algeria (since 2004), Pakistan (since 2003), Egypt, Tunisia (since 2006).

### ***Regional Involvement***

South Asia had the largest share of investment from local investors—60 percent of the region's total in 1998–2006. Local investors were the largest shareholders in 56 percent of the region's projects. East Asia and Pacific also had very active local investors, accounting for 56 percent of private investment in 1998–2006, and acting as the main sponsors in 40 percent of projects. Much of this investment was in the telecommunications sector (where local investors contributed 63 percent) and transport (58 percent). In Sub-Saharan Africa emerging market investors accounted for 50 percent of private investment; but 58 percent came from private investors in South Africa alone.

Latin America and the Caribbean attracted the most private investment in infrastructure in 1998–2006—accounting for 42 percent of the developing world's total—so its results are strongly reflected in the global picture. Emerging market investors were the main sponsors of projects as often as developed country investors were, but the latter accounted for 56 percent of investment commitments in 1998–2006. Developed country investors dominated in Eastern Europe and Central Asia with 73 percent of investment commitments reflecting, in large part, the proximity and interest of Western European companies. However, these commitments went into only 39 percent of projects. Local firms have a significant role in the transport sector only,

---

<sup>12</sup> Andrew, and others (2006), and Schwartz and others (2007).

accounting for 44 percent of investment. Middle East and North Africa investors accounted for the fewest investments in the global picture, with most of these in the telecommunications sector, making it difficult to discern clear patterns. However, the region has witnessed a significant flow of petrodollars from Gulf Cooperation Council countries to investment opportunities in non-Gulf Cooperation Council countries in a wide-range of sectors including infrastructure. In the telecommunications sector, strong regional players are emerging (such as Orascom Telecom, Qatar Telecom, MTC [newly Zein]) and have gained substantial market power in the industry during a limited time, and are competing successfully with global players (such as France Telecom, Telecom Italia or Telefónica) for investment opportunities in the sector in the region.

### ***Conclusions***

This initial study shows that local and regional investors have, to some extent, started to fill the gap created by large multinational utilities from developed countries retreating from big infrastructure projects in emerging markets—especially in riskier and more politically sensitive countries and sectors. However, the study also suggests that the trend has been slow, that emerging market investors react similarly to political risk and to market signals, and that recent inroads of this investor group are equally determined by competition and cooperation with companies from the developed world. The potential role of this investor class is encouraging. For policymakers it suggests a need to rethink the

privatization design, particularly the criteria used in selecting investors, which could be biased toward large international firms from developed countries. The growth in new private infrastructure firms also matters because it should reduce the risk of collusion and other anticompetitive practices.

Other implications of this initial study are less clear. Are local and regional investors better equipped than their developed country counterparts to deal with the political economy issues raised by private participation in infrastructure, as they are often assumed to be? Foreign participation can be less politically sensitive, but familiarity with local surrounding is not always a guarantee for transparency. Do local firms have advantages in financing, as is also often assumed? They have better access to local currency equity capital and could have an edge in mobilizing local currency debt, thus mitigating the risks of foreign exchange. But if local capital markets are undeveloped and local-term finance is unavailable, these advantages will be relatively modest. Conversely, if local capital markets are developed, it can be presumed that they are as readily available to foreign firms as to local ones. These are some of the questions that would be worth exploring further to better understand how EMIOs' potential for providing infrastructure services in emerging economies can be fully realized.

## KEY FINDINGS OF THE SURVEY

Building on these findings, an online survey of 60 companies collected additional detailed information on the characteristics of EMIOs and more specifically, on the four factors that appeared to play an important role in creating business opportunities for EMIOs these are:

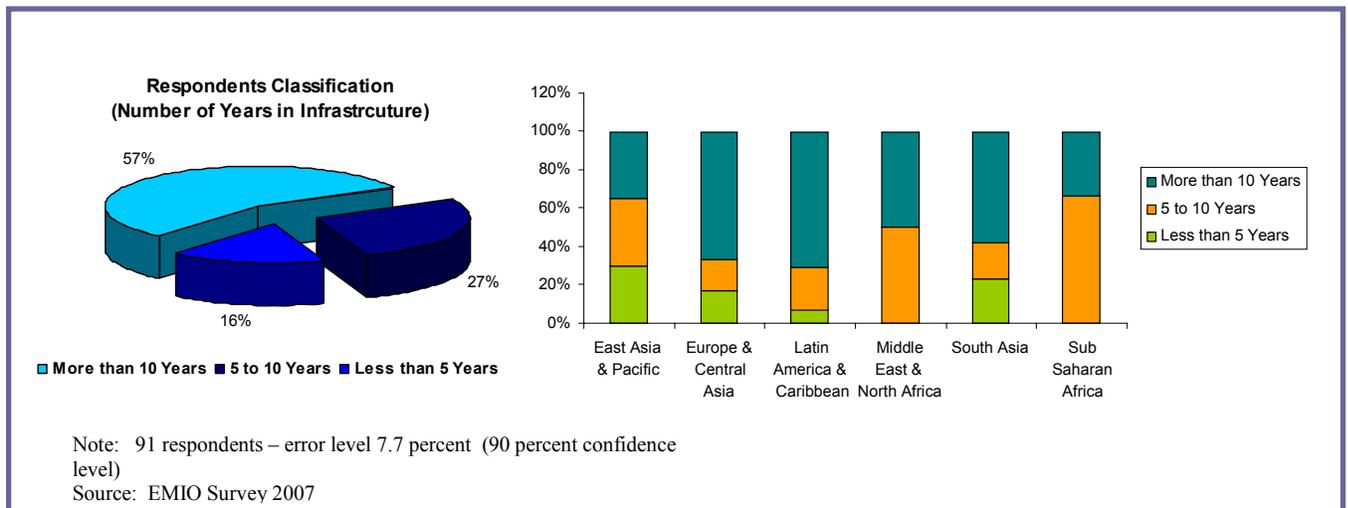
- Market conditions that created opportunities for local / regional firms;
- Deregulation, liberalization, and privatization of the infrastructure sectors that opened the door to the private sector and created the local capacity in developing countries;
- The willingness of the investors and operators to take the risks inherent to dealing with the local governments; and
- The infrastructure needs of the developing countries, as well as the availability of the funding for these new ventures.

With these factors in mind, the questionnaire was designed with two sets of questions. A first series of questions focused on obtaining information on objective characteristics of EMIOs such as: their corporate organization, number of years of experience, and financing structure; and a second series of questions focused on strategic decisions, risk perception, motivation, and expectations.

### *Years of Experience*

Survey results indicate that more than half of EMIOs have more than 10 years of experience in infrastructure, followed by a large group with at least five years of experience, and the smallest group expressing its involvement in the sector in the last five years. EMIOs' years of experience varies across respondents' region of origin (Figure 1). Latin America and Caribbean, and Europe and Central Asia have a greater proportion of experienced companies, with a large majority of the respondents recording experience of over 10 years. This is most likely linked to the regions' engagement in public sector reform and deregulation.

**Figure 1. Number of Years in Infrastructure**



### Corporate Organization

The survey responses on corporate organization show that the largest group of respondents are publicly listed companies, followed by more than one-third organized as private unlisted companies, and the smallest group with less than one-third representing other forms of corporate organization including partnerships, sole proprietorships, and partly held state-owned companies. The proportion of publicly-listed companies does not show a material regional variation, although East Asia and Pacific has a relatively larger proportion of listed companies while Europe and Central Asia, Middle East and North Africa, and Sub-Saharan Africa show a larger proportion of unlisted companies.

### Capital Structure

EMIOs tend to structure the projects in which they invest with moderate levels of debt. The capital structure declared by the respondents indicates an average debt of 55 percent of the project cost. Figure 2 shows that the largest proportion of projects were financed by debt of 51 to 75 percent; and that more than half of the projects were financed by debt in excess of 50 percent.

### Types of Projects

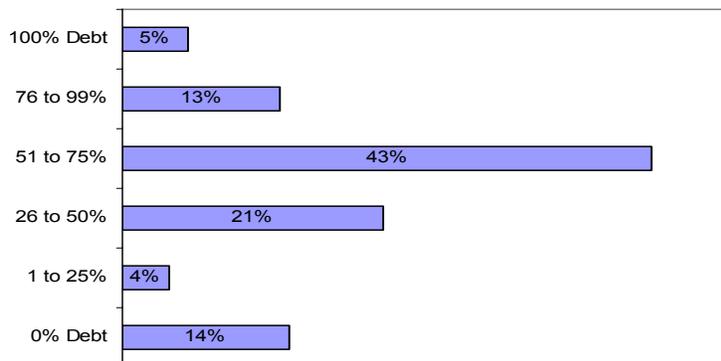
When looking at the types of projects in which EMIOs are involved, the responses reveal that greenfield projects (mostly build-operate-transfer [BOT], and build-own-operate [BOO]) and concession agreements account for almost all projects (Figure 3), leaving behind management contracts and full divestitures. However, differences across regions do exist, with EMIOs investing mostly in concessions in Latin America and the Caribbean, while BOTs and BOOs projects are prevalent in Europe and Central Asia, and South Asia.

### Strategic Decisions

*Number of projects involved.* EMIOs show a tendency to diversify—with survey responses revealing more than half of respondents involved in five or more projects.

*Project size.* The survey responses on the size of projects respondents were involved in indicates that projects of a relatively small value dominate (Figure 4). More than half of the projects comprised an investment of less than \$100 million.

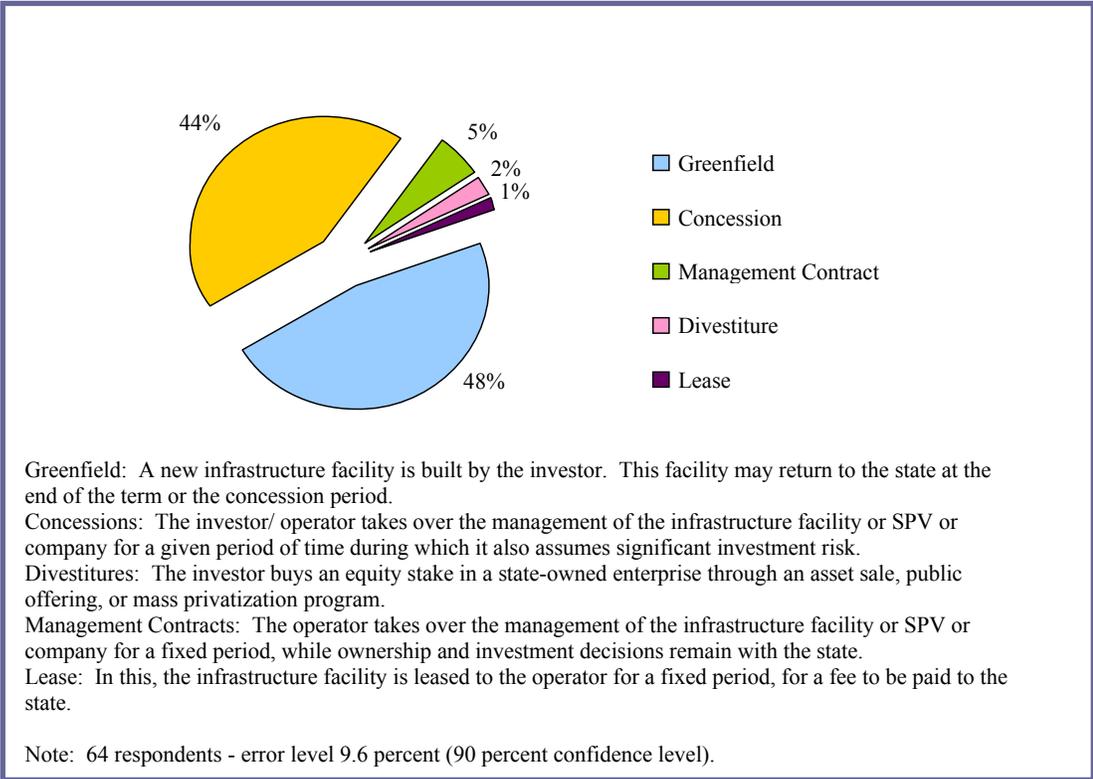
**Figure 2. Financing Structure (Project Debt as a Percentage of the Project Cost)**



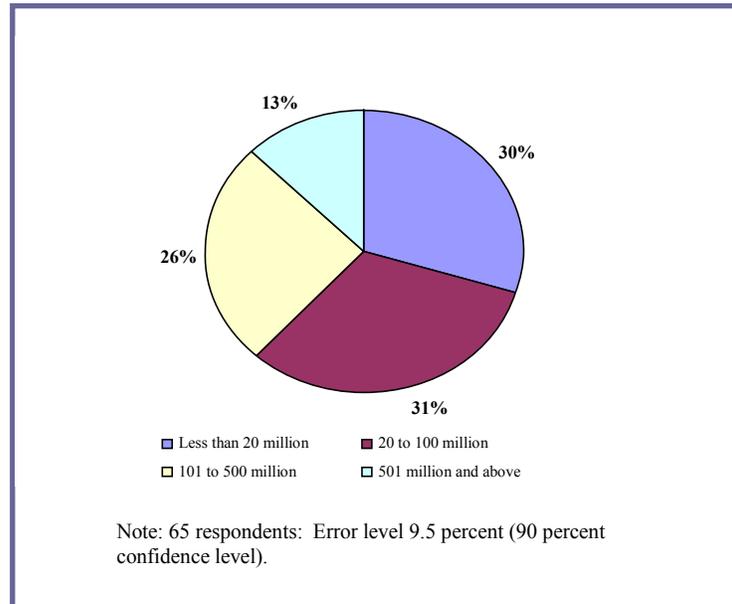
Note: 45 respondents – error level 11.7 percent (90 percent confidence level).

Source: EMIO Survey 2007

**Figure 3. Distribution of Project Types**



**Figure 4. Distribution of Project by Investment Amount**

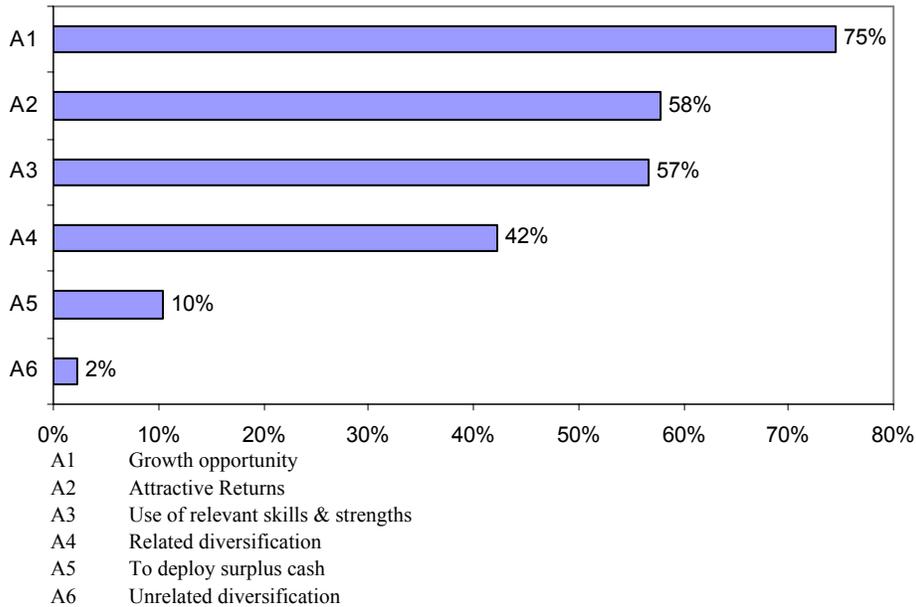


*Motivation.* The results of the survey suggest that investors' motivation in pursuing infrastructure businesses (specifically, their first infrastructure project) lies in their ongoing involvement in the sector. The data indicates that more than half of the investors are already in an infrastructure-related business, such as an equipment supplier, dealer, civil contractor, etc. Several examples are given in developing countries wherein EMIOs that operated as long-time suppliers and contractors, made a swift transition into risk capital providers, and became investors when a suitable opportunity for a project arose. Argentine group Pescarmona (IMPESA) is an example; after years of global sales of hydroelectric turbines it partnered with General Electric in the

hydroelectric generating facilities. Gammon in India had been a construction and engineering company for over 60 years when in 1998 it invested in a toll bridge project.

In addition, results suggest that the principal reason for EMIOs to enter infrastructure projects is the prospect of growth—a large proportion of respondents cite growth as the main driver for involvement. The second significant driver is the prospect of EMIOs earning attractive returns; followed by the opportunity to use relevant skills and expertise to optimize the use of accumulated resources and capabilities.

**Figure 5. Motivation Factor for Entering a Project, Infrastructure Investment**



Note: 52 respondents – error reaches 11% (90% confidence level).  
Source: EMIO Survey 2007

*Means of entry to the infrastructure sector.* The survey examines the manner in which EMIOs accessed their first infrastructure project. More than half of respondents declared having won their first project in a competitive bid. Other less competitive methods (such as direct government negotiations) represent a far smaller proportion—reported by one-fifth of respondents. Acquisitions of existing projects from a local entity or an exiting developed country investor constitute another one-fifth of responses.

*Perceptions and future plans.* The survey shows that a large majority of respondents believe in their competitive advantage over DCIOs originating in “environment” factors, such as:

- awareness political conditions, legal and regulatory framework;
- understanding the local business practices; and
- understanding the requirements of government/contractors, and problem areas.

The responses also indicate a strong view with regard to “management” factors, where more than half of respondents believe that they have a competitive edge

over DCIOs. Factors that can be grouped under this category relate to their ability:

- to invest more management time and effort;
- to pursue the bidding process more actively; and
- to gain better (and early) knowledge about planned projects.

*Perceived risks.* The survey posed questions to EMIOs on perceived risks to business. The risk factors are wide-ranging, and are described briefly in Figure 6. The responses show that the companies rated as “most” and “very important” the political and business risks (80 percent), followed by legal and regulatory risks, finance, market (70 percent), macroeconomic and social risks (38 percent).

*Future plans.* The future plans of EMIOs, specifically their intention to invest in their country, are captured in Figure 7. Responses on future plans show a strong preference to invest in existing and new domestic projects. At the same time, a significant proportion shows interest in investing in projects in other developing countries, either in their region or outside of their region.

Figure 6. Risk Perception

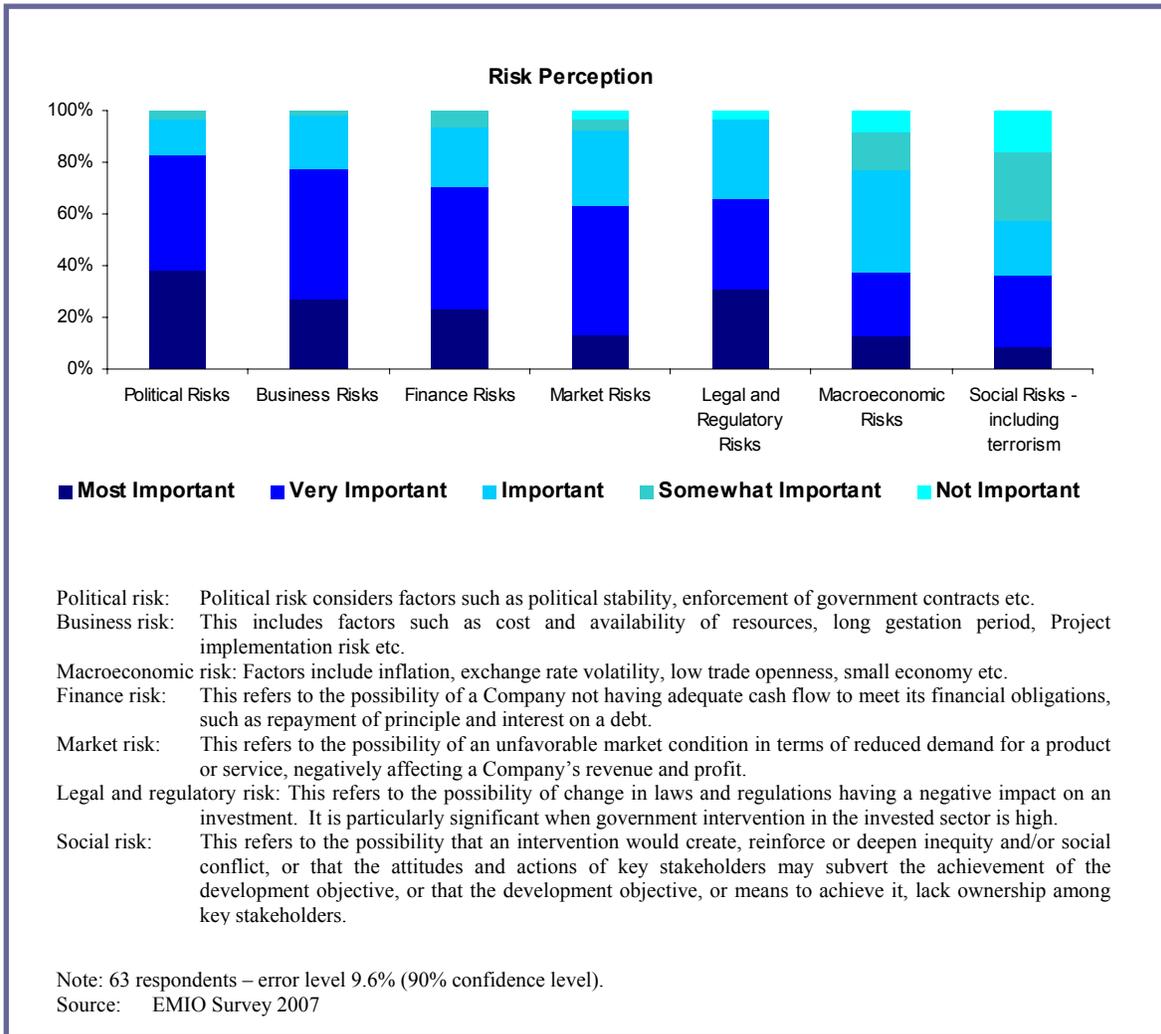
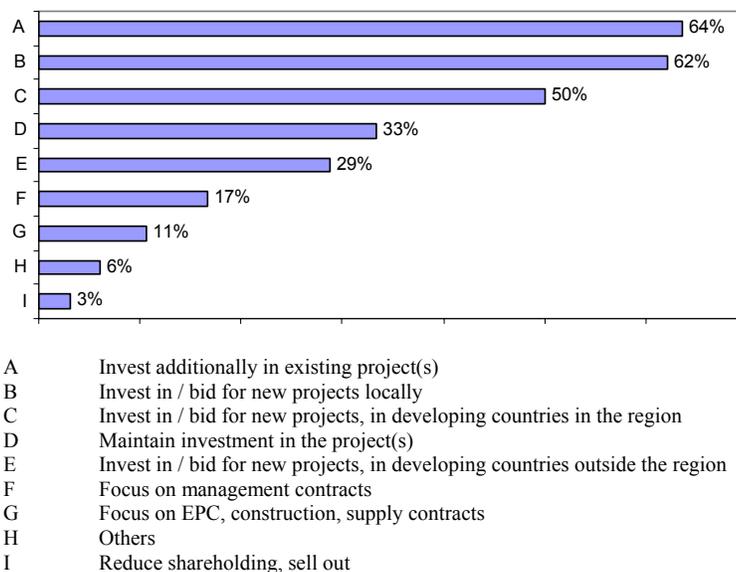


Figure 7. Future Plans



## CONCLUSIONS

*1. EMIOs have been active in the infrastructure market for more than a decade gaining experience which today allows them to compete and partner with companies from developed and developing countries.*

The survey results indicate that 57 percent of the respondents have over 10 years experience investing and operating in the infrastructure sector, and 27 percent have between five to 10 years of experience. Many of the respondents started by playing roles that entailed no risk—such as suppliers or contractors—with little risk by taking small shareholding positions of less than 5 percent. Their roles evolved over time, through associations and ventures with developed countries to eventually gaining leading positions.

Meaningful differences exist among regions, with Latin America and Caribbean and Europe and Central Asia showing the highest share of respondents with more than 10 years experience and the two Asia regions showing the highest share of responders with less than five years. The regional differences follow the early economic reform processes started in Latin America and Caribbean in the early 1990s, and in Europe and Central Asia after the collapse of the Soviet Union. Looking at EMIO roles across regions, the survey shows that the companies participated as both investors and operators. Focusing on regional differences, the companies from Europe and Central Asia, and South Asia tend to more often take the role of investor; in East Asia and Pacific companies are more frequently found in the role of operator, while in the Latin America and the Caribbean they are equally distributed as investors and operators.

The companies interviewed have been in business for more than 10 years and they perceive themselves as experienced participants in the infrastructure sector.

The interviews reflect different business models, and while some of the companies remained privately-held and limited in business scope, others took advantage of the burst of activity in emerging markets and raised capital in the capital markets by publicly floating their shares. As public limited companies undergoing stronger scrutiny, they reorganized and reshaped themselves into professional corporate entities, and broadened their business focus. In other cases, investments by private equity funds helped companies transform, for example, Nagarjuna Construction, Blackstone; Soma Enterprise, 3i India; or Indu Projects, Citigroup Venture Capital.

Several of the companies interviewed emphasized their investment in the early rounds of private sector participation in their countries. They tended to invest in small- to medium-sized projects for which little or no competition from developed country investors was expected. The smaller scale of projects proved to be a good match for the limited managerial and financial capacity they had (at the time) while providing the company the opportunity to gain experience. In some cases, this slow build-up of local capacity was promoted by the governments as they initially offered smaller contracts, perhaps with a view to facilitating the entry of local investors and operators.

The field interviews, like the desk survey, did not support the perception that the EMIOs emerged because of the void created by the retreat of traditionally dominant multinational (generally, developed country) investors. The interviews suggest, instead, that the growth of EMIOs is more attributable to the opportunities created by governments' increasing focus on infrastructure, the opening of infrastructure sectors to private participation, and more interestingly, the growing skills and confidence of EMIOs in their ability to undertake large infrastructure projects.

### **Box 1. Creation of EMIO Growth Opportunities, India Highways**

Through the National Highways Development Project, the Government of India set up a new executing agency, created a clearly defined portfolio of projects, opened the sector to private and foreign participation, and offered a range of incentives to facilitate the entry of private investors and operators. About 30 percent of all contracts (in km terms) were awarded to bidders involving a foreign and Indian firm. Moreover, most of the foreign firms were from other developing countries

**2. EMIOs have grown their infrastructure business by, progressively, moving up the value chain.**

The results of the survey suggest that investors' and operators' main motivation to pursue infrastructure businesses (specifically, their first infrastructure project) is their ongoing involvement in the sector. Most of them were already in an infrastructure-related business, as an equipment supplier, dealer, or contractor. The experience gained in a related area, the prospect of additional growth and return, and the possibility to improve the use of relevant skills and expertise spurred them to take on the roles of investor and operator when frameworks for private involvement in infrastructure evolved, and additional long-term business opportunities with steadier returns opened.

The anecdotal evidence arising from the field interviews also indicates that many EMIOs started out as local contracting companies providing services to government departments, state-owned enterprises, and developed country companies. In time, they bid for infrastructure projects either in association with another EMIO or with an overseas technical partner. The companies interviewed, by and large, have moved from a job-work or subcontracting role to that of an investor and operator. The transition reflects broader changes in the infrastructure sectors, from infrastructure being largely owned and operated by governments (which issued job-work and turnkey

contracts), to being opened to private participation and FDI, under different forms of PPP arrangements. This shift has generally been swift, as the companies responded to the accelerating pace of reforms and positioned themselves to take advantage of the emerging opportunities. Companies adapted by partnering and acquiring the skills, resources, and technology needed to move up the value chain. Strategies included purchasing foreign and local infrastructure companies and contracting firms, and recruiting expatriate engineers and managers to train their staff.

The progression along the value chain has been a conscious growth strategy for EMIOs aimed at leveraging their current capabilities in pursuing new work. A common approach has been to use their capacity in civil construction to bid aggressively for projects in road, hydro electric, irrigation, and gas pipeline. Their background in civil construction and contract works meant that these companies had competencies to set-up projects in time and on budget, thus reducing a major risk in infrastructure projects. The responses also suggest that EMIOs may have had the advantage of being able to shape emerging opportunities. This does not suggest any impropriety, but recognizes that these companies derive the benefit of participating in formal and informal stakeholder consultations on reforms, policy, regulation, and infrastructure investment requirements.

**Box 2. EMIOs Moving Up the Value Chain, The Example of Bharti, India**

Bharti evolved from a telephone producer to manufacturer of communications equipment, mobile network operator, provider of value-added services and investor abroad, while at the same time, linking financially and operationally with different telecommunications companies from developed countries. Bharti's development mirrors (on the same timeline) the continuous reforms that India carried out since the mid-1980s in its telecommunications service and telecommunications equipment sectors, the creation of a regulatory framework, the implementation of a national telecommunications policy, and the enhancement of rules for FDI

**3. Due to their origin and location, EMIOs see their competitive advantages over DCIOs in their ability to manage and organize their business, and in the way they perceive and deal with risks.**

According to the survey results, a majority of EMIOs concluded that they possess a distinct competitive advantage over DCIOs in terms of their knowledge of local political, regulatory and legal conditions; their understanding of local business practices; and requirements of infrastructure projects. EMIOs believe that they are able to dedicate more management time and attention to infrastructure projects, pursue tenders more actively and consistently, and acquire at an earlier stage better knowledge of upcoming projects than their competitors from developed countries. These findings are consistent with a recent MIGA report on south-south investment that identifies proximity and cultural affinity as one of the five key factors driving south-south FDI.<sup>13</sup> While the MIGA analysis focuses on outward investment of EMIOs, it can be assumed to apply even more to the advantages EMIOs have in their home countries, particularly, in contrast to investors in developed countries.

The survey shows that EMIOs consider political and business risks to be highly important, however, they also see themselves as better placed to handle the risks by means of a management style involving anticipation and agility. As an example, senior management is prepared to dedicate more time (than investors from developed countries) would with the stakeholders and the government, attempting to identify broad trends early, and to develop a sense of what can be achieved in a project without risking an adverse response. This translates into the company organizing itself to respond swiftly to unexpected issues that emerge, and pursue a different approach/opportunity speedily, by abandoning the current approach/opportunity when success appears unlikely. When investment takes place within a place with cultural and social affinity, EMIOs recognize that they are able to apply more effectively these management tools.

The companies interviewed for this study agree broadly with the view that they have an advantage due to better familiarity with local market conditions, policy climate, and the business drivers. This is understood in a broader sense *viz.* their pragmatic reading of the sector regulations, and their ability to interact effectively with the government; which

means they see themselves in a better position to interpret a tender and its provisions.

Similarly, EMIOs believe they understand better the decision-making processes, particularly in their home country, which gives them the advantage in planning a response to unanticipated developments in the process. Several respondents note that in developing countries, the contracts may not spell out immediately all the risks and provide corresponding risk mitigation measures. For a DCIO, this constitutes a greater risk, and may prevent it from proceeding further; while the EMIO is more amenable to proceed without necessarily having to resolve up front all potential issues.

**4. EMIOs have benefited from improved availability of finance and lower costs as a result of the development of local financial markets.**

The responses from the online survey show that the companies are not concerned by the availability of finance, but they are concerned by the cost of finance. The responses also indicate that the funding sources are predominantly local, which suggests that the survey respondents are able to mobilize local funding, and find it sufficiently attractive for their investments. While there are noticeable differences between regions, the survey shows that companies believe, overall, that they now have more options to raise funds for infrastructure investments than at any time before, and at a relatively lower cost. A significant part of survey respondents are publicly listed companies, which also indicates that there is sufficient appetite from market players to buy their shares and provide risk capital.

Of the projects disclosed in the survey, the capital structure shows debt at an average of 55 percent of project costs. The majority of projects have a debt-to-equity ratio between 51 and 75 percent. Moreover, projects in which survey respondents are involved are generally small- to medium-sized, with 60 percent at an investment volume of less than \$100 million per project. About 60 percent of respondents to the survey expected investment returns of 8 to 16 percent and most achieved these expectations. Recent projects were assessed as more profitable than earlier ones. The majority of EMIOs surveyed considered they have achieved their investment goals of security, strategic objectives, revenues, and cash flows even though there are large regional variations. As a comparison, a recent study funded by

---

<sup>13</sup> “South-South FDI and Political Risk Insurance: Challenges and Opportunities,” MIGA (2008).

### Box 3. Infrastructure Finance: India

While local financial markets have evolved dynamically in many emerging markets, India's financial system has been particularly effective in supporting the recent increase in private infrastructure investments. The following factors illustrate the key trends in the Indian financial markets that have improved availability and lowered costs of finance for infrastructure investments.

- (a) Funds raised through primary capital issues have increased in recent years, with domestic private placement growing in prominence. The data shows that 36 percent of all initial public offerings over 2003–7 were floated by infrastructure companies.
- (b) The resources raised by mutual funds, led by private issuers, are at record levels; and a number of infrastructure funds have been set up.
- (c) Commercial bank lending to infrastructure has increased significantly (over 100 times during 1991–2007); the proportion of outstanding bank credit to infrastructure has increased from 2 percent (1991) to 20 percent (2007).
- (d) Private equity has funded several infrastructure and engineering and construction companies over last five years;
- (e) Interest rates have been on a declining trend for 10 years, from their height in the early 1990s to their lowest levels in 2004-6, and average spreads for PPPs have shown a particularly steep decrease over the past four years (Harris 2008).

PPIAF on infrastructure finance in India (from 1995–2007), found an average debt-to-equity ratio of 68 percent, increasing over the period. The average project size rose from about \$20 million in 1996, to \$120 million in 2006, with airports representing (by far) the largest projects, followed by power transmission and ports.<sup>14</sup> Expected returns on equity in that study, however, were much higher, with 73 percent of investors expecting more than 16 percent.

The companies interviewed in South Asia acknowledged the benefits that local financial markets have played in their growth, while companies in Latin American and Caribbean found that infrastructure continued to rely heavily on international financial institutions. Access to capital markets has been enhanced both by factors external to, and related to infrastructure. Financial sector deregulation and modernization has benefited all economic activities, particularly in larger countries, and infrastructure has been no exception. In addition, the policy shift to PPPs for infrastructure investments, and the active role governments have assumed in promoting private sector participation, has helped EMIOs secure project financing. This role involves defining and implementing appropriate legal and regulatory frameworks, as well as creating capacity to manage project preparation and implementation, to delineate risk distribution

principles, and to provide specific financial support in the form of subsidies or guarantees.

An environment offering better access to capital markets (both in the form of public or private equity placements) helps to raise finance, and has transformed companies in other ways. In preparing to float an equity issue, management tends to actively reorganize, rebrand, and remote the companies; improve transparency and disclosures as required by listing conditions; and take steps to raise the companies' profile and bring corporate governance to international standards.

The interviews also revealed a perception that in an emerging market environment, infrastructure companies listed on the stock exchange are more protected against political and regulatory risks than unlisted companies. The view is that a listed company (unlike an unlisted private company) is owned by a broader set of shareholders including banks, pension funds, government agencies, and the common public; and that policy and regulatory provisions would not be too abruptly or unfairly changed as it would impact a wider set of owners.

***5. EMIOs plan to expand outside their home territory and expect to use their comparative advantages, relying on their developing country background to compete.***

<sup>14</sup> PPIAF Gridlines "India leads developing nations in private sector investment" Clive Harris (March 2008).

The future plans of the companies surveyed appear conservative under their specific circumstances. About two-thirds of the companies want to invest in existing projects or in new local projects, and half of them in new projects in their region. Considerably less than half of the companies intend to invest in new projects in other regions, or to change strategy by moving from investments to management contracts, or return to EPC and supply arrangements. The propensity to invest in the home country and region is understandable given the ability to benefit from proximity and familiarity with the regional environments.

Even though some respondents—particularly from the East Asia and Pacific and South Asia—expressed interest in investing in neighboring regions, the responses generally suggest the companies’ lack of active plans to get involved beyond their own region. The concerns of EMIOs relating to investments in other regions pertain to the political instability, and legal uncertainty, lack of skills, and competence of the workforce, and operational difficulties in doing business. These concerns are similar to those expressed by DCIOs. The respondents evidently recognize that the competitive advantage of local knowledge they enjoy in their home country and region can quickly dissipate outside their region. However, some EMIOs have ventured (selectively) overseas to source fuels or raw materials, acquire operating assets for growth, leverage skills and expertise, and acquire technology.

The field interviews confirmed that compared to DCIOs, EMIOs see a lower incremental risk when they invest in another developing country. The companies interviewed consider the political and administrative set-up in other developing countries as similar to their own, and conclude that this familiarity helps them to respond more appropriately to the risks related to infrastructure investments and operations. They often invest in countries that share the same cultural and ethnic links and heritage, frequently in neighboring countries where they are already familiar with the local business environment through trade. Even if companies are less confident when they move into other regions, they expressed the view that they are adaptable, and, thus, likely to better manage risks in unfamiliar environments, which enables them to maintain their edge over DCIOs.

#### **LESSONS AND TOPICS FOR FUTURE CONSIDERATION**

*Limitations of the survey/questionnaire instrument.* The study shows the serious limitation of desk and

field surveys that aim to explore complex subjects. A frequent problem is the low response rate that is important in surveys that are subject to a high-degree of subjectivity, even when quantitative questions are asked. Such surveys, therefore, need to be complemented by direct engagement (e.g., periodic consultations, assessment of conference results), and studies based on more specific and objective information, e.g., market trends, financing terms.

*Follow-up research.* While the preceding paragraph argues for more in-depth global follow-up, this is important for EMIOs in regions not covered by field interviews in this study, i.e., the regions of Africa, East Asia and Pacific, Europe and Central Asia, and Middle East and North Africa. Each of the regions and its investors and operators has its own peculiarities. For instance, it would be relevant to better understand how the flow of petrodollars from Gulf Corporation Council countries to other countries in the Middle East and North Africa and East Asia is impacting, or has impacted, the development of private sector sponsored operations and investment in infrastructure. It is recommended to complement this study with more detailed region-specific studies to document developments in each region. This would help the international development community to devise plans to assist client countries in defining appropriate policy interventions.

*Financing issues.* The assessment of financing issues is a weak point in the study due to the reluctance of respondents to answer related questions. The results of the study provide only partial responses, and therefore the financing information was complemented by some objective market data, particularly from South Asia. The analysis of investors’ and operators’ motivations would be greatly enhanced if the assessment of financial parameters could be deepened through regional studies on the financing aspects of infrastructure. A specific study on this topic is under preparation for India.<sup>15</sup> An important ingredient for exploring financing issues further, but also for the question of risk transfer (see below), would be the more direct engagement with banks and other finance providers.

*Risk transfer.* The over-riding profile of the investors surveyed is that of a construction company or a power project developer. The findings of the survey and field interviews suggest that these companies have increasingly been willing to expand into

---

<sup>15</sup> Harris (2008).

concessions or greenfield construction projects that ostensibly tie them to a bankable revenue stream (from tolls, tariffs or government transfers) that enable them to raise project financing. The following two elements to this recognition are not evident from the survey and interview results, but merit further in-depth investigation.

- There is a supply-side reason for large local construction companies to go into the private participation in infrastructure business. If they traditionally survive on large public contracts in roads or power (or any other sector), and the government changes its contracting mechanisms from standard public procurement to a concession or BOT/IPP model, they may have little option but to switch to this business model.
- To follow-on to the element given above, construction firms may form project companies to bid on big projects, because they cannot afford the opportunity-cost of missing the construction contracts that are imbedded in them. They may then subcontract the construction work to themselves, and if the expected revenue stream does not materialize, they can declare the project company bankrupt, and simply wait for the government to procure the same construction firm to complete the project. This is what happened with the Mexican cement and construction companies in the first round of the Mexican toll road program. The converse happened with the London metro PPP contract which was canceled last year. To mitigate that risk, governments can adjust their approaches to bidding and regulation whereby either self-generated subcontracts are disallowed, are subject to Swiss Challenge, or are approved by the regulator on a case-by-case basis.

*Link to noninfrastructure activities.* The survey results show some of investors/operators emerged from backgrounds not closely related to infrastructure, e.g., mining or manufacturing, and that finance providers are starting to play a role as well. This can have implications on policy as it could suggest that the investor/operator selection be based on criteria not entirely related to infrastructure experience, such as specific interest in infrastructure as users, or general management and adaptive capacity. A study funded by PPIAF on this topic is under preparation.<sup>16</sup>

*Social development issues.* The study did not address issues related to social development since they were not covered in the original concept. The survey and the field interviews do not provide information to allow elaboration on these issues in this working paper. Nevertheless, the survey gives indirectly some insights on corporate governance practices, as its findings highlight how local companies are much more adept than others to operate in the local context. Moreover, as the survey results show, the increasing trend for EMIOs to transform themselves from family-held or other forms of nonpublic companies, to listed companies tends to increase transparency and improve corporate governance.

---

<sup>16</sup> Schwartz, and others (forthcoming).

---

## ANNEX 1. SUMMARY OF METHODOLOGY

---

### Phase 1 Study: PPI Database

The principal initial data source used for this study is the PPI database, which tracks information on some 3,800 infrastructure projects with private investments in the energy, telecommunications, transport, and water/sewage sectors located in 143 low- and middle-income countries. The database covers infrastructure projects that are fully or partially owned or managed by private companies and that directly or indirectly serve the public (excluding captive facilities such as cogeneration power plants and private telecommunications networks). Projects are considered to have private participation if a private company or investor bears a share of the operating risk. This database identifies all the current holders of at least 15 percent equity in the project (except those who purchased it through publicly-traded shares), and, in a project file but not in any aggregate tables, usually gives their equity share. It also includes companies with leases/management contracts, in cases where no equity is involved.

The first step was to select the period to study ownership of projects. Initially all projects that reached financial closure between 1998 and 2003 were selected. Subsequent updates were selected to cover projects that reached financial closure until 2006.

According to the PPI database methodology "sponsors" are defined as private sector holders of at least 15 percent equity or, where no equity is involved, of the leases/management contracts. In this context, a foreign state-owned enterprise is considered a private entity. For the purposes of the study, "sponsors" were subsequently classified in "developed-country" investors and "developing country" investors. "Developed-country" investors are those either domiciled/incorporated in developed countries, or majority owned/controlled by a company from a developed country. "Developing-country" investors or "EMIOs" as per terminology used in this study, are those either being domiciled/incorporated in low- or middle-income

countries, or majority owned/controlled by a company from a low-or middle-income country. The final step was to allocate a share of the total investment (or project cost) in each project to each sponsor, where possible, in accordance with their equity shares. In most cases this information was available in the PPI database; in other cases, further research was conducted. In those few cases where it was not possible to find out these percentages, shares were notionally divided equally among participating sponsors.

### Phase 2 Study: Web-based Survey and Field Interviews

The second phase of the study was designed with the objective to obtain information beyond the statistical information contained in the PPI database. The study was structured in two parts, a Web-designed survey/questionnaire complemented by a few field interviews. The desk survey was conducted by means of an online questionnaire targeting a sample of EMIOs. The questionnaire for the online survey was designed to cover the different aspects of the target companies, including their status and experience, financial and operating information, business strategy and approach, partnerships, risk perception, and future prospects. The questionnaire was sent to about 390 emerging market investors and operators, using as a starting point the information obtained in Phase 1. The online survey was accessed by 122 companies of which 99 commenced the survey and 65 completed it. The completed responses thus represent about 14 percent of the original target population and 17 percent of the final list of companies contacted by the survey team. The results therefore reflect the voluntary participation of approximately 60 companies and responses should thus be interpreted considering this limitation. The response rates for companies in Latin America and Caribbean and South Asia were significantly higher than those from other regions that subsequently, determined the focus of the field interviews. It was judged as an efficient use of resources to select companies only from Latin America and Caribbean and South Asia for the field interviews since they were more likely to collaborate with the study team given their active participation in the Web-survey.

## ANNEX 2. QUESTIONNAIRE



THE WORLD BANK



### Global Survey On Developing Country Investor & Operators in Infrastructure



Thank you for taking the time to respond to this survey.

This survey is supported by the **Public Private Infrastructure Advisory Facility**, a multi-donor trust fund administered by the World Bank. It is now recognized that investors and operators of infrastructure projects are increasingly coming from developing countries. The aim of this study is to understand better their specific requirements and concerns.

The results of this study will be disseminated to various Governments and other policy making bodies to appraise them on how best to support these new, emerging investors and operators in infrastructure via policy and regulatory measures.

The survey will ask you a set of questions about your company and its investments in infrastructure projects in developing countries. All of the information you submit will remain confidential. We will ask you, towards the end of this survey, if the information provided by you can be quoted. If you do not grant permission all information identifying your company will remain confidential. The survey would, however, use the information you are providing to generate anonymous statistical analysis that would be included in PwC's report and disseminated.

This survey web-site will close by **17 November 2008**.

You can also send the hardcopy of the survey (mail or Fax) to any of the field representatives mentioned below: -

Field Representatives					
Adriana Elizalde	adriana@pwcinfrasurvey.com	PricewaterhouseCoopers	+541148506896	12:30	to
		Boulevard 557 piso 9	+541148506897		
		C1106ABG Ciudad Autónoma de Buenos Aires, Argentina	+541148506898	21:00 GMT	
Gaurav Sharma	gaurav@pwcinfrasurvey.com	PricewaterhouseCoopers	+919985682890	03:30	to
		6 <sup>th</sup> Floor LB Bhawan 6-3-550 Bopaljuda, Hyderabad, India	+919985682891	12:30 GMT	

Please fax your responses to **+91 40 88133861**

If you would like to know more about this survey, or need any clarifications, please feel free to contact any one of us listed above.

**All respondents completing this survey will be sent an early copy of the study report.**

For any other details, please contact [pwcadmin@pwcinfrasurvey.com](mailto:pwcadmin@pwcinfrasurvey.com).

This publication (and any extract from it) may not be copied, paraphrased, reproduced, or distributed in any manner or form, whether by photocopying, electronically, by internet, within another document or otherwise, without the prior written permission of PricewaterhouseCoopers. Further, any quotation, citation, or attribution of this publication, or any extract from it, is strictly prohibited without PricewaterhouseCoopers' prior written permission.

© 2008 PricewaterhouseCoopers. All rights reserved. "PricewaterhouseCoopers", a registered trademark, refers to PricewaterhouseCoopers Private Limited (a limited company in India) or, as the context requires, other member firms of PricewaterhouseCoopers International Limited, each of which is a separate and independent legal entity.

## I. BACKGROUND INFORMATION

### 1. What is the country of origin/nationality of the Parent Company? (Refer below for help)

Country of Registration  
Country of Listing (on the Stock Exchange)  
Country of origin of the Entrepreneur

### 2. What is the current legal status of the Parent Company?

- Publicly listed company
- Private limited company (not listed)
- Partnership
- Sole proprietorship (individual)
- State or Government owned Company
- Financial institution / Private equity / Hedge Fund
- Cooperative society
- Trust
- Others (Explanation)

### 3. If the Parent Company is listed, can you please indicate what proportion of shares are available for trading by the general public?

- Less than 25%.
- 25% to 50%.
- More than 50%.

### 4. How many years of experience does the Parent Company have investing in or operating infrastructure projects?

### 5. How many infrastructure Projects, in total, has the Parent Company invested in or operated to date?

### 6. Could you please list the infrastructure projects in which you are engaged now, and also previously?

Please provide the following information about them:

SNo	Project Name	Year of Start	Country	Sector	Project Type	Cost (in millions)	Currency
1							
2							
3							
4							
5							

**Sector**

- Power Generation
- Power Transmission Power
- Distribution Natural Gas
- Telecom
- Railroads
- Toll roads
- Airports
- Sea ports
- Potable water
- Sewerage

**Project Type**

- Greenfield
- Divestiture
- Concession
- Mgmt Contract

**7. Please fill in the indicative details of term and size for each of the projects you have invested in or operated:**

Name of the Project	Tenure of contract (in years)	Extendable	Number of		Project size / Capacity	
			Employees	Retail Customers	Number	Units
1						
2						
3						
4						
5						

**II. Financial Structure and Operational Structure**

**8. Please indicate how the projects in which you have invested or operated, were originally financed**

Financing Structure (Share in Project Cost in %)			
Project Name	Project Equity as percent of Project Cost	Project Debt as percent of Project Cost	Grant / Subsidy
1			
2			

Project Equity (Share in Project Equity in %)									
Project Name	Parent Company & Internal Resources (%)	Other local investors (%)	Foreign Investor (%)	Development Funding Agency (%)	Government (%)	Domestic Lenders (%)	Foreign Lenders (%)	Retail investors (%)	Others (%)
1									
2									

Borrowings (Share in Project Debt in %)									
Project Debt and Mezzanine Capital	Parent Company & Internal Resources (%)	Other local investors (%)	Foreign Investor (%)	Development Funding Agency (%)	Government (%)	Domestic Lenders (%)	Foreign Lenders (%)	Retail investors (%)	Others (%)
1									
2									

9. Can you please provide following financial details for each of your projects?

Project Name	Year	Currency	In Millions			In Percent	
			Revenue	Corporate Tax paid	Receivables	Gross Profit Margin (%)	% of Cost in Foreign Currency

10. Could you please tell us the terms for the debt raised for your Project, and by the Parent Company, in recent years?

Year	Any recent Project			Parent Company		
	Average Loan Maturity (Years)	Average Interest Rate (%)	Is the project credit rated by a rating agency?	Average Loan Maturity (Years)	Average Interest Rate (%)	Is the Parent Company credit rating better than the Project's ?
2004						
2005						
2006						

11. Can you please indicate the expected and the actual rate of return on your investment, for each of the infrastructure projects?

Project Name	Expected Rate of Return at the time of contracting (%)	Actual rate of inflation (Average) (%)	Actual Rate of return achieved on the project (%)

12. Please rate, for each Project, how the results compare with your original expectations.

(Refer Below for Help)

Whether results met expectations?				
Project Name	Security of Investment	Strategic Objectives	Revenues	Cash Flow

Select an option (For all the columns in Question 12. except Project Name)

1. None met
2. Some expectations met
3. As expected
4. Better than expected
5. Significantly better

### III. Business Strategy

13. In this section, we would like to understand the Parent Company's business strategy, specifically, its reasons to enter the infrastructure business:

13.1 First infrastructure project: Which of the following reasons motivated your Company to undertake its first infrastructure project?

THE COMPANY WAS ALREADY IN INFRASTRUCTURE RELATED BUSINESS (EXAMPLE, AS AN EPC CONTRACTOR, OR AN EQUIPMENT SUPPLIER, OR IN CONSTRUCTION BUSINESS) IN THIS COUNTRY

SAME AS ABOVE; BUT IS FROM ANOTHER DEVELOPING COUNTRY

THE COMPANY SUPPLIES FUEL OR SPARE PARTS OR OTHER CONSUMABLES IN THIS SECTOR

THE COMPANY WAS A LARGE CONSUMER IN THIS SECTOR

THE COMPANY'S CLIENTS OR PARTNERS WERE INVOLVED IN THIS INFRASTRUCTURE PROJECT

THE COMPANY WAS ATTRACTED BY THE EXPECTED RETURN OF THE INFRASTRUCTURE PROJECT

THE COMPANY WAS ATTRACTED BY THE POTENTIAL GROWTH OPPORTUNITIES IN THIS SECTOR

OTHER REASONS, PLEASE EXPLAIN

**13.2 First infrastructure project: Which of the following routes best describe the Company's initial entry to the infrastructure business?**

TAKE OVER OF AN EXISTING PROJECT FROM AN INVESTOR / OPERATOR FROM A DEVELOPED COUNTRY

TAKE OVER OF AN EXISTING PROJECT FROM A LOCAL ENTITY

ENTRY AS A MINORITY PARTNER / CONTRACTOR

WINNING A COMPETITIVE BIDDING PROCESS

DIRECT AWARD OF THE PROJECT BY THE GOVERNMENT WITHOUT A FORMAL BIDDING PROCESS

AS A "FINANCIAL INVESTOR" (EXAMPLE: AN INVESTMENT FUND SPONSOR THAT MOBILIZES CAPITAL GLOBALLY, INDEPENDENT OF THEIR LOCATION)

OTHER REASONS, PLEASE EXPLAIN

**14. We would like to understand, briefly, the reasons that motivated your investment in infrastructure projects?**

Project Name	Growth opportunity	Use of relevant skills & strengths	Attractive Returns	To deploy surplus cash	Related diversification	Unrelated diversification
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**15. How would you rate your Company's competitive advantage when compared to an investor from a developed country?**

Parameter	High competitive	Moderate competitive	No specific	Adversely placed	Serious disadvantage
Awareness of political conditions and processes	<input type="radio"/>				
Awareness of legal and regulatory framework	<input type="radio"/>				
Awareness of cultural and ethnic aspects (understanding of the local business practices)	<input type="radio"/>				
Awareness of local social and economic conditions and ability to manage it	<input type="radio"/>				
Better understanding of Government's /contractor's requirements and problem areas	<input type="radio"/>				
Company resources and capabilities	<input type="radio"/>				
Ability to take and manage business risks	<input type="radio"/>				
Innovation	<input type="radio"/>				

Ability to invest more management time and effort	<input type="radio"/>				
Awareness of political conditions and processes	<input type="radio"/>				
Able to pursue the bidding process more actively	<input type="radio"/>				
Better and early knowledge about the projects	<input type="radio"/>				
Other (Please explain below)	<input type="radio"/>				

#### IV. Partnership

**16. Investors:** The following two questions address the investment partnerships that the Company may have formed in order to engage in the infrastructure Projects.

(a) For each infrastructure Project, please tick partners who contributed to Project equity

Project Name	EPC Contractor / Equipment supplier	O & M Contractor	Supplier of fuel, spares, etc	Government	Private local investor	Other developing country investor	Developed country investor
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(b) For each infrastructure Project, please tick the Parent Company's role(s) in the Project

Project Name	EPC Contractor / Equipment supplier	O & M Contractor	Supplier of fuel, spares, etc	Sole or majority owner	Minority Owner
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**17. Operators:** Can you please indicate which of the following were the operators (that is, day to day operation of the project) of each infrastructure project?

Project Name	Project Company	Parent Company	Other O&M Contractor (who is not a partner)	Local Partner	Government	Foreign Partner
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## V. Business Environment and Risk Perception

**18. Risk Perception: How important are the following risks when the Company is considering an investment in a developing country?**

Parameters	Most Important	Very Important	Important	Somewhat Important	Not Important
Political Risks	0	0	0	0	0
Business Risks	0	0	0	0	0
Finance Risks	0	0	0	0	0
Market Risks	0	0	0	0	0
Legal and Regulatory Risks	0	0	0	0	0
Macroeconomic Risks	0	0	0	0	0
Social Risks - including terrorism	0	0	0	0	0

**19. Has the Company ever canceled participation in an infrastructure Project or sold off an investment in infrastructure? If so, why?**

- **NO, THE COMPANY HAS NEVER CANCELED OR SOLD OFF AN INVESTMENT IN INFRASTRUCTURE.**
- **YES, THE COMPANY CANCELLED PARTICIPATION OR SOLD OFF INVESTMENTS**

**If Yes, Please specify the number of such Projects**

**(Kindly fill in the following for the projects cancelled or sold off)**

Project Name	Changes in Government Policy	Project returned to public provision	Due to corporate governance and compliance issues	In response to unforeseen or changing circumstances	Financially attractive to exit	Due to financial constraints	Due to investment opportunities in other sectors
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## VI. Future Prospects

20. What are the Company's future intentions in terms of infrastructure Project(s)?

INVEST ADDITIONALLY IN EXISTING PROJECT(S)

MAINTAIN INVESTMENT IN THE PROJECT(S)

REDUCE SHAREHOLDING, SELL OUT

INVEST IN / BID FOR NEW PROJECTS LOCALLY

INVEST IN / BID FOR NEW PROJECTS REGIONALLY

INVEST IN NEW PROJECTS GLOBALLY

FOCUS ON MANAGEMENT CONTRACTS

FOCUS ON EPC, CONSTRUCTION, SUPPLY CONTRACTS

OTHER: [PLEASE EXPLAIN]

NO ANSWER

21. In which sector(s) is the Company planning to invest in the future?  
(Please select one or more)

### Energy

Power Generation  
Power transmission  
Power distribution  
Natural Gas

### Transport

Railroads  
Toll roads  
Airports  
Sea ports

### Telecom

Telecom

### Water and Sewerage

Potable Water  
Sewerage

22.1 Please select the region(s) where you would like to invest.

**First Region :**

**Second Region :**

**List Of Regions:**

1. East Asia & Pacific
2. South Asia
3. Latin America & Caribbean
4. Europe & Central Asia
5. Middle East & North Africa
6. Sub-Saharan Africa

22.2 Which of the following does the Company consider to be the main concerns facing investors in the region in the coming years?

**First region:**

Concerns	Most Important	Very Important	Important	Somewhat Important	Not Important
Political instability	<input type="radio"/>				
Inadequacy of legal safeguards, and dispute resolution mechanisms	<input type="radio"/>				
Regulatory policy uncertainty	<input type="radio"/>				
High tax rates and administrative costs	<input type="radio"/>				
Prohibitive labor regulations	<input type="radio"/>				
High labor costs	<input type="radio"/>				
Lack of skills and competence of available workers	<input type="radio"/>				
Financial constraints / difficulty in access to finance	<input type="radio"/>				
High cost of financing	<input type="radio"/>				
Macroeconomic volatility	<input type="radio"/>				
Operational aspects, difficulty of doing business	<input type="radio"/>				

**Second region:**

Concerns	Most Important	Very Important	Important	Somewhat Important	Not Important
Political instability	<input type="radio"/>				
Inadequacy of legal safeguards, and dispute resolution mechanisms	<input type="radio"/>				
Regulatory policy uncertainty	<input type="radio"/>				
High tax rates and administrative costs	<input type="radio"/>				
Prohibitive labor regulations	<input type="radio"/>				
High labor costs	<input type="radio"/>				
Lack of skills and competence of available workers	<input type="radio"/>				
Financial constraints / difficulty in access to finance	<input type="radio"/>				
High cost of financing	<input type="radio"/>				
Macroeconomic volatility	<input type="radio"/>				
Operational aspects, difficulty of doing business	<input type="radio"/>				

---

## ANNEX 3. FIELD INTERVIEWS

---

### *Overview*

#### **South Asia and Latin America**

The selection of companies chosen to conduct the field interviews was decided based on those companies showing an interest in participating in the study. Additionally, a broad set of criteria were taken into account, including the volume of private infrastructure investment in particular countries, geography and sector, number of projects in which a company was involved, and other qualitative criteria. The field interviews then targeted 24 companies from Latin America and Caribbean and South Asia. Of these, 14 agreed to participate and were interviewed, most of them in person.

In the case of South Asia, eight companies were interviewed covering a range of infrastructure sectors and subsectors including telecommunications, power (including renewable energy), toll-roads, and airports. In Latin America, six companies were interviewed that are involved in water and sewage, ports, energy and toll-roads as well as two conglomerates that invest across infrastructure sectors.

The purpose of the interviews was to gain an understanding of some of the results obtained from the online questionnaire as well as to use the opportunity to conduct a qualitative research on emerging market investors and operators.

The selected group of companies included both public companies listed in the domestic market, some which have listed their shares in international stock exchanges (such as those of London and New York) and some which still remain in private hands as family-owned companies.

The case studies describe the political and economic circumstances that surround each of the companies' development in order to understand the growth story that makes them a success. Both in South Asia and in Latin America the companies benefited from the opening of the infrastructure sector to private investment and the clear potential of growing markets.

The availability of finance is perceived differently in the two regions. While in South Asia all companies agreed that the development of local capital markets has been a key element in their development and in support for their growth, in the case of Latin America, and more specifically in Brazil, the need for public funds either available through the state development bank BNDES or from multilateral agencies was considered an ongoing factor to facilitate the financing of projects that otherwise would be otherwise unfeasible.

The majority of the companies interviewed were involved as suppliers of services to the state before the sector was opened to private capital, the case of construction companies becoming toll-road operators is seen more often in Latin America than India but the model of suppliers of engineering services in the power sector before becoming independent power producers is common to both regions.

All companies believe they are flexible and able to adapt to changing circumstances ahead of developed country investors given their experience of having worked, from the beginning, in emerging markets. However, the companies are cautious when investing beyond their country or region. Most of them believe they have fewer competitive advantages and their confidence remains within countries where they see cultural and social affinities.

## *Selected Cases*

### *A. ARGENTINA: WATER AND SEWAGE SECTOR, CUSTOMER BASE 440,000*

The company was founded in 1990, when as a construction company, it took the opportunity to enter and pioneer the private management of public services related to sewage and drinkable water in Argentina. In one decade the company earned a distinguished reputation for its growth in operations. It is the largest Latin American private capital group in the sanitation industry, serving more than 440,000 customers (equivalent to a population of more than 1.7 million), and is involved in projects in Brazil, Dominican Republic, Ecuador, Nicaragua, and Peru.

The company develops engineering and technologies that are designed to assist low-income populations living with unplanned urban growth—and has achieved positive results that were delayed due to the strong withdrawal of investment. Additionally, it stands out for using an alternative to conventional water supply systems—a natural wastewater treatment, wherein wastewater is carried out through longitudinal drains with regulated filtering speeds.

#### *Maintenance*

The company manages and maintains the water supply and sewage systems, covering workers, material supply, equipment—everything needed to meet its customer's needs. The company offers equipment to remove obstacles for works in sewage systems; and performs inspections (computerized and televised) of water supply and sewage systems. It has “auto cracking equipment” to change old pipes without having to crack the pipes in the streets.

#### *Business Opportunity and Growth Strategy*

The company entered the water and sewage sector to take advantage of Argentina's privatization boom. It was the first firm, through its involvement in the Concession of Aguas de Corrientes, to participate in an international privatization bidding in the sector.

With this new project came other opportunities to participate in concessions in Argentina and throughout the region. The company grew its business in the sector through its understanding of the political environment, working closely with the government, and meeting the needs of its customers.

The company has participated in several public international bids, and is now bidding for a project in

Ecuador (financed by the World Bank); on one in Brazil; and considering submitting a bid for the Acueductos de Bogotá in Colombia.

#### *The Company's Perception as an EMIO*

Although the company lacks the years of experience of many Brazilian construction companies, it has an established reputation and is the largest private Latin-American capital group in the sanitation industry.

The company has won important concessions in Argentina and in other Latin American countries by becoming a leader in the industry and competing with developed country operators. Its experience and clear understanding of the industry has secured its place in the local and regional markets.

Early on, the company was part of a construction group that was dedicated to the construction of civil and public works related to agriculture and real estate; this exposure enabled the company to penetrate the sector and to participate in other bidding processes wherein it gained experience in the industry through forward value chain integration. Now, within the water and sewage sector, the company has solid experience in the construction of everything related to water management, and has earned its leading position in the market.

The company believes its biggest asset is its understanding of the political reality of the sector that gives it the capacity and flexibility to adapt to political requirements. Water and sewage is a sector with high political exposure—with immediate consequences (political). Therefore the company values its ability to find technical solutions that can be adapted easily to the economic and financial environment. The company views the business as not purely private but, rather, as a joint-venture between the private operator and the political power.

The respondent emphasized that the needs of cities in the region are different from those of countries from the developed world. The company provides services to cities that, at many times, have structural, social, and economic problems with low-income populations, and therefore it had to customize its management models accordingly. It must also provide technical solutions to meet its clients' needs.

Service rates are similar to those charged in developing regions, which causes a problem because the rates do not allow for reinvestment in the sector.

*B. BANGLADESH: PORTS, ENERGY, SHIPPING SECTOR, INFRASTRUCTURE CONGLOMERATE*

The company is Bangladesh's largest infrastructure industry company—employing over 1,000 staff; and is one of the leading companies in Bangladesh's shipping, port services, and energy sectors.

*The Growth Story*

In 1972, the group began as a small trading company (in thermo-plastic moulding compound) that pioneered the private sector's entry in the power generation as the founder-sponsor of the first private sector power company. In 2004, it became a public limited company to broaden the venture.

The company successfully established three power plants for the sale of electricity to the Rural Electrification Board under a BOO basis at Comilla, Narsingdhi, and Savar. In 2001, commercial operations started from three power plants each with the capacity of 11 megawatt (MW)—from which all the generated electricity is sold to the Rural Electrification Board. The company strives to establish small power plants around the country, ranging from 10MW to 50MW; and it plans to explore energy markets in Sri Lanka and Vietnam.

Another of the group's companies was the first indigenous private sector power producer to enter into a BOO contract with Rural Electrification Board of Bangladesh to operate small power plants.

*Ports*

The shipping arm of the company was incorporated (June 1998) to operate in the transportation of liquid products. It now operates two tankers with a load capacity of 1,800MT and 1,200MT respectively. The company plans to expand and to procure ocean-faring tankers to transport furnace oil, edible oil, and liquid petroleum gas from international markets to Bangladesh.

*The Company's Perception as an EMIO*

The company views the availability of manpower, globalization, and the access to international talent pool as enhancing the options of emerging market investors. One reason for the growth of this class of investors is the global accessibility of financial resources. The companies in Bangladesh can raise funds domestically and internationally—even with existing restrictions raising money is easier than ever before.

Emerging market investors have a competitive advantage in their management of political and regulatory risks—even in terms of cheap human resources. However, their biggest challenge is the political and administrative set-up of their countries. The bureaucratic structures of government (often with its own agenda), have led to a slower-than-expected growth of infrastructure and investments in such projects from the developing countries investors.

The company perceives that the availability of cheap human resources and mobility in the international labor market gives emerging market investors an extra edge. They have the in-depth understanding of the political and legal scenario in their country, and local firms have the advantage of knowing the domestic regulatory environment.

The development of local capital markets is instrumental to the surge of emerging market investors, as there is a huge pool of funds sitting in the country. However, when investing in large projects, and speeding the pace of development, the participation of international community is required. In Bangladesh, appropriate steps are needed to develop access to capital from foreign sources; as the regulations of foreign exchange are restrictive to meet the infrastructure investment requirement.

The company believes it has a similar (relatively ) competitive advantage in countries within the region. However, some home advantage may be less relevant outside of Bangladesh. In other developing countries it is treated less favorably and, hence, the advantage goes to the developed country investors. In the company's opinion, innovation is where the developed country investors have the competitive advantage. The modern techniques of business management and financial engineering are readily available in developed countries; therefore, emerging investors need to learn those techniques—though they are better placed to take more risks than the multinational companies from developed countries.

*C. BRAZIL: ROADS, POWER, WATER SECTORS, CONGLOMERATE*

The company is among the largest heavy construction companies in Latin America. It developed strategic partnerships that increased its competitive advantage, and a long-term vision that allowed new technologies to be constantly incorporated. The company has expanded its international business over the last 20

years, and today it has a strong presence in many countries in Africa, Asia, Europe, and Latin America. Within Brazil, the company is responsible for executing works that are responsible for around 30 percent of the country's installed power capacity, as well as a sizable portion of its transport infrastructure. The construction company is present in nearly all Brazilian states, as well as in 15 Latin American countries; and its main focus is on highways, public transportation, basic sanitation (water, sewage and solid waste), power, ports, and airports.

#### *Business Opportunity and Growth Strategy*

Brazil's demand for infrastructure along with the government's inability to invest, were not the only factors motivating the company to invest in the infrastructure business, it was the opportunity for the company to grow and achieve an important position within the infrastructure sector.

In addition, over the years, the company developed competitive advantages that differentiated it from developed country investors and operators, they are:

- (a) the knowledge of the country (population, customs, partners, policies, way of thinking, etc.);
- (b) a well-built reputation based primarily on the fact that the company is well known for honoring its contracts; its understanding of Brazil's infrastructure sector and its needs; and
- (c) the know-how to deal with its specifics; and its management and corporate governance with regards to the projects in which it is involved.

Additionally, the company expects to grow internationally by, possibly, investing in India as it considers India to be a growing market with an increasing demand for infrastructure projects—a market that replicates that of Brazil during the phenomenon of the 1960s.

#### *The Company's Perception as an EMIO*

The company has almost 60 years of experience in the market and views its success as derived from, primarily, its efforts to exploit the inability of the government to invest in infrastructure, and its awareness of Brazil's latent need for infrastructure development.

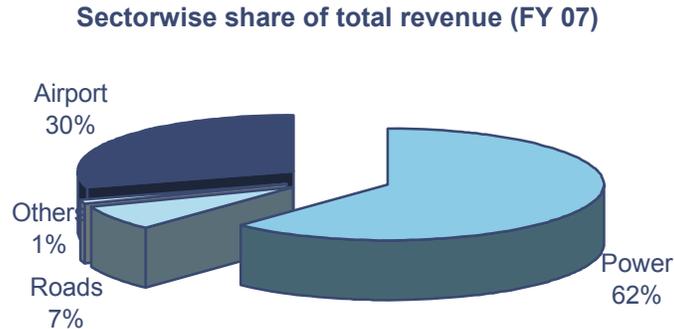
The company penetrated the infrastructure market through forward value chain integration. The company initially began as a construction and engineering company involved primarily in the construction of roads, within (the state) of Minas Gerais. Through the years the company became involved in sectors such as energy, sanitation, and more recently, in telecommunications.

Its success was primarily built by the company's commitment to honor all its contracts, consequently, building a very good reputation. The company's main competitive advantages (with regard to those that a DCIO might have) are: its knowledge of Brazil—understanding the country's infrastructure needs, the population, customs, potential partners, policies, way of thinking, etc.—and its excellent reputation.

In addition to mitigating risks by being aware of, and managing its competitive advantages, the company bases its entrepreneurial decisions on anticipating and knowing the market. The company is cautious and does not take risks when making decisions on investments.

Until recently, when creating partnerships with other companies, the company partnered only with other companies in Brazil. However, in a partnership with American and Canadian partners in Ecuador it is constructing the new airport (and alone operates the current airport). Also, to mitigate risks when partnering with other companies, it likes to have equal participation in the projects, —rather than being a majority or minority holder—to mitigate risks it prefers to participate in consortia wherein the participation is well-divided among all members.

**Figure 8. Sector-wise Share of Total Revenue (FY07)**



The company perceives that when investing in other countries or regions it has fewer competitive advantages. When analyzing whether to invest in other regions, the company conducts evaluations on a broad range of risks (political, social, environmental, economic, financial and technical). However, the company recognizes that in given sectors (as in the case of airports), or regions (for example, when constructing in the African jungle) it stills has competitive advantages when compared to companies lacking these types of experiences.

*D. INDIA: INFRASTRUCTURE CONGLOMERATE (AIRPORTS, POWER, AND ROADS SECTORS); REVENUES: \$473 MILLION*

The company is one of India's leading private sector organizations with interests in infrastructure and agribusiness. Incorporated in 1996, the core business of the group is in infrastructure (airports, energy, roads, and urban infrastructure).

The group's assets consist of four power plants (three in commercial operation, one under construction); six road projects (two in commercial operation and four under development); and three airport projects (one greenfield and two existing airports undergoing modernization and expansion). Figure 8 gives an overview of the company's revenue breakdown, and businesses. The gross annual revenue for the group for 2007 was Rs. 19.87 billion.

*Growth Story*

The first business started by the company was in the power sector when India opened the energy sector to private sector investment. The power business continues to have a dominant share in the total revenue of the group, with the annual revenues from

this sector reaching Rs. 12.31 billion. The share of power business has gone down from 85 percent in FY06 to 62 percent in FY07.

*Roads*

The company holds concessions to develop, operate, and maintain three annuity road projects. The group develops these projects on a BOT basis, pursuant to concession agreements entered into with the National Highways Authority of India. Under each of the concession agreements, they are entitled to receive fixed semi-annual payments from the National Highways Authority of India, for a period of 15 years, commencing on the date the relevant road entered into commercial operation. The group has also won three new projects to develop, operate, and maintain roads. In FY07 the revenue from this sector reached Rs. 1.44 billion.

*Airport*

Together with members of the consortium, the group holds concessions to develop, operate, and maintain Hyderabad International Airport located in Andhra Pradesh, the Indira Gandhi International Airport in New Delhi, and Sabiha Gokcen in Istanbul. In FY07, the revenues for this sector were Rs. 5.9 billion.

*The Company's Perception as an EMIO*

The company's view is that earlier involvement in the infrastructure business of emerging market investors was opportunistic, in terms of the economy opening a gap created from the absence of DCIOs in the infrastructure sector.

Over time, emerging market investors have also built their resources and capabilities and have gained

experience in the sector. Therefore, it is appropriate to say that now they are mature companies and are able to compete in the market with companies from developed countries—at least, this, so far, is the company’s experience in gaining the concession (against stiff competition) for Istanbul’s second airport, Sabiha Gokcen.

The company believes strongly that emerging market investors have a significant advantage over developed country investors in terms of awareness of the political, economic, legal, and regulatory scenarios. Moreover, they also have an advantage in terms of interfacing effectively with the government, as well as understanding local business practices, culture, and nuances.

The development of the local capital market contributed, according to the company’s views, to facilitating the access of emerging market investors into infrastructure, and increasing their role.

The company considers that the competitive advantage that emerging market investors have is due to their local knowledge, and would not be significant when moving outside their own region. However, it sees itself to be highly adaptable—a valuable characteristic to have when investing outside their region.

#### *E. INDIA: RENEWABLE ENERGY; REVENUES \$1.9 BILLION*

##### *Growth Story*

The company was among the first few in Asia to see the opportunities offered by the global wind-energy markets. It began with setting-up a manufacturing base in India, interacting with local governments, and starting operations in some of the most demanding locales. The company enjoyed the early mover’s advantage in its home country, and in three years after starting operation, grew as market leader. It started as a manufacturer and developed into a fully integrated value chain with control over all critical components of its value chain—gearbox and generator technology, towers, rotor blades, and complete wind turbines. The company has developed and implemented several large-scale wind-farms throughout India using the integrated solution approach.

The wind-power program in India was initiated near the end of the Sixth Plan in 1983-84, with the formation of a separate Department of

Nonconventional Energy Sources. In 1992 the Department began to function as a separate ministry to develop all areas of renewable energy. India is perhaps the only country to have an exclusive Ministry for Nonconventional Energy Sources.

When the company began to manufacture wind-power equipment, the total wind-power installed capacity in India was just over 350MW. Initially, the decision to enter into equipment manufacturing was made due to the company’s requirements of owning a plant to support their textile business. The soaring power costs and infrequent lack of power made the promoter of the company look for alternatives, and its first brush with wind-energy was as a customer. This led to the discovery of new business opportunity for the promoters as the company was quick to identify the gap in the Indian market for a complete end-to-end provider of wind-energy solutions, and it developed capabilities to fill the gap.

The respondent points out that, in India, government policies have driven the wind market. After the passing of the Electricity Act 2003, a massive market for wind-energy is being created and the last six years has seen a rapid growth in wind-energy generation, and the cumulative installed capacity increased from 1482MW in 2001, to 7113.6MW by March 2007. In 2006, India was the third largest country in the world, in terms of annual capacity additions, and fourth largest in terms of cumulative installed wind-energy capacity, with a share of 8.4 percent of the total.

The company has looked for growth in India and around the world, and has looked beyond traditional markets for wind-energy, and entered new and emerging high growth markets. The company has facilities in Belgium, China, India, and the United States—and supplies world markets and manufactures everything from components that go into turbines, to complete wind turbine generators.

##### *The Company’s Perception as an EMIO*

Emerging market investors are catching-up with developed country investors at a rapid pace in terms of technology use, research capabilities, expertise, skilled manpower, etc., and are closing the gap between the developed and developing country investors.

As an emerging market investor, and following the company’s own growth experience, it penetrated the renewable energy market through value chain integration. The company started as a captive power

plant for their textile industry; and based on its experience gained through captive power generation, it entered the power generation business.

Regarding the company's experience, the development of local capital markets has been critical to the rise of the emerging market investors. Its financing strategy is to always borrow local funds in the country in which it operates.

In the company's opinion, the competitive advantage held by emerging markets investors—due to their local knowledge—is not relevant when moving outside of its region. At the same time, its exposure to risk and risk management abilities are an advantage when operating in a new environment.

*F. INDIA: TELECOMMUNICATIONS SECTOR, CUSTOMER BASE 38 MILLION, REVENUES \$4.2 BILLION*

#### *Growth Story*

Until the mid-1980s, India's telecommunications industry was a monopoly, managed and controlled by the government. Faced with rapidly increasing demands for telecommunications services and equipment, the government began to reorganize the telecommunications industry.

In late 1991, the government initiated the process to open the telecommunications industry by inviting bids from private operators to provide cellular services in the metropolitan cities of Chennai, Delhi, Kolkata, and Mumbai. In early 1995, the government invited tenders from private operators to provide cellular services in 18 telecommunications circles, excluding these four metropolitan areas.

The turning point for the company came when the government awarded licenses for mobile phone services in Delhi. One of the conditions for the cellular license was that the bidders should have experience as a telecommunications operator; so the company partnered with Vivendi (a French telecommunications group), and in two years it had secured rights to provide cellular services to New Delhi.

Today the company continues its expansion in India, and also trains its focus on other regions and countries. The company's primary focus on growth is in the familiar countries in South Asia. Beyond South Asia, its focus is on opportunities in Africa, East Asia, and the Middle East.

#### *The Company's Perception as an EMIO*

The company perceives itself as a mature company that has been competing for the market with developed and developing companies. After the initial hiccups (political, regulatory, legal, etc.), experienced by the developed country investors, a void was created in the market—a void that evolved as an opportunity for the developing country investors. The investors began with modest capital and experience, and have grown and compete with developed country investors.

The investors from developing countries provide stiff competition to the investors from the developed countries. This comes with the better understanding of political, legal and regulatory framework, familiarity with the local context, and culture, etc. However, once a developed country investor places roots in the country, and understands the nuances of the system, the local competitors' competitive advantage is diluted.

*Emerging market investors penetrate the infrastructure market through forward value chain integration.* In the telecommunications industry, the company began as a supplier of push button telephones, and later when the sector was opened for private sector participation, it became a pioneer in the mobile telephony services.

*Emerging market investors create competitive advantages in the way they manage and organize their business and use this as a mitigation tool.* The company's view is that familiarity and understanding of local practices give it an advantage over its counterparts in developed countries, and that influences how it orientates its businesses according to the local political, and legal and regulatory environments.

*The development of local capital markets facilitated the company's growth.* When the company started in India's telecommunications business, the lack of funds was an important impediment to growth. The capital markets had evolved but at the time there were no takers for shares in the telecommunications market. In the beginning it was a big challenge to raise funds in public placements therefore needing to depend on "private placement" to mobilize the funds.

## Bibliography

- van Agtmael, Antoine 2007. "The Emerging Markets Century. How a New Breed of World Class Companies is overtaking the World". Free Press, London.
- Amos, Paul 2004. "Review of Reform, Commercialization and Private Participation in Railways in Europe and Central Asia". World Bank, Washington, D.C.
- Andrew, Doug and Silviu Dochia 2006. "The growing and evolving business of private participation in airports – New trends, new actors emerging". Gridlines, note no. 15. PPIAF, Washington, D.C.
- Asia Consulting Group (P) Ltd. 2007. "World Bank Survey of Infrastructure Investor Perception of South Asia - Report & Key Findings". New Delhi.
- Bacon, R., and J. Besant-Jones. 2001. "Global Electric Power Reform, Privatization and Liberalization of the Electric Power Industry in Developing Countries." World Bank Annual Review: Energy and the Environment 26 (1): 331-59.
- Bahvna Bhatia and Neeraj Gupta, 2006. "Lifting constraints to Public-Private Partnerships in South Asia". Gridlines, Note No. 6. PPIAF, Washington D.C.
- Battat, Joseph. "China's Outward Foreign Direct Investment". FIAS/MIGA Firm Survey. World Bank, Washington D.C.
- Battat, Joseph and Aytut Dilek. 2005 "FIAS – Southern Multinationals – A growing phenomenon." World Bank, Washington D.C.
- Benavides, Juan and Antonio Vives. 2005. "Public-Private Partnerships: From Plain Vanilla to Local Flavors. Infrastructure and Financial Markets Review." Inter-American Development Bank.
- Besant-Jones, J. 2005. "Lessons and Sourcebook for Reforming Power Sectors in Developing Countries." World Bank, Washington D.C.
- Clarke Annez, Patricia, 2006. "Urban Infrastructure finance from Private Operators: What have we learned from recent experience?. World Bank Policy Research Working Paper 4045, Washington D.C.
- The Economist. "The car industry not for the faint-hearted. Why Tata Motors is favored to buy Jaguar and Land Rover". November 24, 2007.
- Estache, Antonio. 2004. Emerging Infrastructure Policy Issues in Developing Countries: A Survey of the Recent Economic Literature. World Bank Policy Research Working Paper No. 3442, World Bank, Washington D.C.
- Ettinger, Stephen, Michael Schur, Stephan von Klaudy, Georgina Dellacha, and Shelly Hahn. 2005. "Developing Country Investors and Operators in Infrastructure." Trends and Policy Options Series, no. 3. PPIAF, Washington, D.C.
- FitchRatings, 2004. "Public-Private Partnership: the Next Generation of Infrastructure Finance". Special Report, New York.
- Gelb, Stephen. 2006. "South-South FDI: An African Perspective" Presentation to World Bank/IFC PSD Forum 2006. The EDGE Institute, Johannesburg and University of the Witwatersrand.
- Global Development Finance 2004: "Harnessing Cyclical Gains for Development." World Bank, Washington D.C.
- Global Development Finance 2005: "Mobilizing Finance and Managing Vulnerability" World Bank, Washington D.C.
- Global Development Finance 2006: "The Development Potential of Surging Capital Flows" World Bank, Washington D.C.
- Guasch, J. Luis. 2002. "Concessions of Infrastructure Services: Incidence and Determination of Renegotiations – An Empirical Evaluation and Guidelines for Optimal Concession Design", World Bank, Washington D.C.
- Guasch, J. Luis, Jean-Jacques Lafont, and Stephane Straub. 2003. "Renegotiation of Concession Contracts in Latin America." The World Bank Latin America and the Caribbean Region Finance, Private Sector, and Infrastructure Unit, Washington D.C.
- Guasch, J. Luis, and Robert W. Hahn. 1997. "The Costs and Benefits of Regulation: Some Implications for Developing Countries." World Bank, Washington D.C.
- Gutiérrez, Luis H. and Sanford Berg. 1998. "Telecommunications Liberalization and Regulatory Governance: Lessons from Latin America." Public Utility Research Center, University of Florida.

- Harris, Clive. 2003. "Private Participation in Infrastructure in Developing Countries: Trends, Impacts, and Policy Lessons." World Bank Working Paper 5. Washington, D.C.
- Harris, Clive. 2008. "Financing PPPs in India: trends and policy implications". Presentation at SDN Week 2008, World Bank, Washington, D.C.
- Harris, C., John Hodges, Michael Schur, and Padmesh Shukla. 2003. "Infrastructure Projects: A Review of Cancelled Private Projects." Note 252. World Bank Group Private Sector and Infrastructure Network, Washington D.C.
- "Infrastructure in Europe and Central Asia Region Approaches to Sustainable Services." 2006. World Bank, Washington D.C.
- Izaguirre, Ada Karina. 1998. "Private Participation in the Electricity Sector – Recent Trends." Viewpoint 154. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Izaguirre, Ada Karina. 1999. "Private Participation in the Transmission and Distribution of natural Gas – Recent Trends." Viewpoint 176. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Izaguirre, Ada Karina. 1999. "Private Participation in Telecommunications." Viewpoint 204. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Izaguirre, Ada Karina. 2000. "Private Participation in Energy." Viewpoint 208. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Izaguirre, Ada Karina. 2004. "Private Infrastructure. Activity Down by 30 Percent in 2002". Viewpoint Note Number 267. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Izaguirre, Ada Karina. 2004. "Private Infrastructure. Activity Down by 13 Percent in 2003." Viewpoint 274. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Izaguirre, Ada Karina. 2004. "Private Power Projects." Viewpoint 281. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Izaguirre, Ada Karina. 2005. "Private Telecom Projects." Viewpoint 288. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Izaguirre, Ada Karina. 2005. "Private Water Projects. Investments Flows Up by 36 Percent in 2004". Viewpoint Note Number 297. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Izaguirre, Ada Karina. 2005. "Private Infrastructure. Emerging Market Sponsors Dominate Private Flows". Viewpoint Note Number 299. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Jamash, T., M. Rafaella, D. Newbery, and M. Pollitt. 2005. "Electricity Sector Reform in Developing Countries: A Survey of Empirical Evidence on Determinants and Performance." Policy Research Working Paper 3549. World Bank, Washington D.C.
- Kariuki, Mukami and J. Schwartz. 2005. "Small-Scale Private Service Providers of Water Supply and Electricity." A Review of Incidence, Structure, Pricing and Operating Characteristics. World Bank Policy Research Working Paper 3727. World Bank, Washington D.C.
- Kessides, Ioannis N. 2004. "Reforming infrastructure: Privatization, Regulation, and Competition." World Bank, Washington D.C.
- Kerf, Michel, Ada Karina Izaguirre. 2007. "Revival of private participation in developing country infrastructure". Gridlines, note no. 16. PPIAF, Washington, D.C.
- Krishnaswamy, V. and G. Stuggins. 2003. "Private Participation in the Power Sector in Europe and Central Asia: Lessons from the Last Decade." Working Paper 8. World Bank, Washington D.C.
- Lamech, Ranjit, Kazim Saeed. 2003. "What International Investors Look for When Investing in Developing Countries: Results from a Survey of International Investors in the Power Sector." Energy and Mining Sector Board Discussion Paper 6. World Bank, Washington, D.C.
- Lampietti, J. 2004. "Power's promise, Electricity Reforms in Europe and Central Asia," Working Paper 40. World Bank, Washington D.C.
- Lampietti, J., H. Gonzalez, M. Wilson, E. Hamilton, and S. Vashakmadze. 2003. "Revising Reform in the

- Energy Sector.” Working Paper 21. World Bank, Washington, D.C.
- Marin, Philippe, Ada Karina Izaguirre. 2006. “Private participation in water – Toward a new generation of projects?”. Gridlines, note no. 14. PPIAF, Washington, D.C.
- Miroux, Anne. 2006. “South – South Investment: Current Trends and Future Prospects.” World Bank – PSD Forum 2006. Conference des Nations Unies Sur le Commerce et le Development.
- Multilateral Investment Guarantee Agency. 2008. “‘South-South’ FDI and Political Risk Insurance: Challenges and Opportunities.” Perspectives. Washington, D.C.
- Noll, Roger G. 1999. “Telecommunications Reform in Developing Countries, Working Paper 99-10.” Washington D.C. AEI-Brookings Joint Center for Regulatory Studies.
- Shepard, Robert, von Klaudy Stephan, and Kumar Geeta, 2006. “Financing Infrastructure in Africa. How the region can attract more project finance”. Gridlines, Note N° 13. PPIAF, Washington D.C.
- Schur, Michael, Stephan von Klaudy, Georgina Dellacha, Apurva Sanghi and Nataliya Pushak, 2008. “The role of developing country firms in infrastructure”. Gridlines, note no. 3 Updated. PPIAF, Washington, D.C.
- Schwartz, Jordan, Ada Karina Izaguirre. 2007. “Joint Effort, Why are public-private partnerships back in fashion with investors in airports in the developing world?”
- Schwartz, Jordan, Steven Ostrover, Paolo Curiel. Forthcoming. “Packaging Infrastructure and Non-Infrastructure Investments in Developing Countries – Recasting the Opportunity, Redefining the Investor”. PPIAF, Washington, D.C.
- Silva, Gisele F. 2000. “Toll Roads” Viewpoint 224. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Silva, Gisele F. 1999. “Private Participation in the Airport Sector” Viewpoint 202. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Sommer, Dirk. 1999. “Private Participation in Port Facilities” Viewpoint 193. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Strong, John S., José Luis Guasch, and Juan Benavides. 2003. “Managing Risks of Infrastructure Investment in Latin America: Lessons, Issues, and Prescriptions.” Inter-American Development Bank, Washington D.C.
- Tynan, Nicola. 1999. “Private Participation in the Rail Sector” Viewpoint 186. World Bank, Finance, Private Sector, and Infrastructure Network, Washington D.C.
- Tenenbaum, Bernard, Ada Karina Izaguirre. 2007. “Private participation in electricity – The challenge of achieving commercial viability and improving services”. Gridlines, note no. 21. PPIAF, Washington, D.C.
- Vagliasindi, Maria, Ada Karina Izaguirre. 2007. “Private participation in infrastructure in Europe and Central Asia – A look at recent trends”. Gridlines, note no. 26. PPIAF, Washington, D.C.
- Vives, Paris, Benavides, Raymond, Quiroga, Marcus and Domeniconi. 2006. “Financial Structuring of Infrastructure Projects in Public-Private Partnerships: An Application to Water Projects.” Interamerican Development Bank, Washington, D.C.
- World Bank, Private Sector Advisory Services. 2003. “Private Participation in Infrastructure: Trends in Developing Countries in 1990–2001”. Washington, D.C.

**PPIAF Program Management Unit**  
c/o The World Bank  
1818 H Street, NW  
Washington, DC 20433 USA  
Telephone: 202.458.5588  
Fax: 202.522.7466  
Email: [ppiaf@ppiaf.org](mailto:ppiaf@ppiaf.org)  
World Wide Web: <http://www.ppiaf.org>