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PARTNERSHIPS IN DEVELOPING  
COUNTRIES: ARE  
INFRASTRUCTURES RESPONDING  
TO THE NEW ODA STRATEGY**

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**PUBLIC-PRIVATE SECTOR PARTNERSHIPS IN DEVELOPING COUNTRIES:  
ARE INFRASTRUCTURES RESPONDING TO THE NEW ODA STRATEGY?\***

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**Abstract**

*Abstract:* The developing world needs far more financing for infrastructure than can be provided by domestic public finances alone and through ODA. Around middle 1980s a new strategy based on the use of public-private agreements, relying on ODA to enhance the quality of projects, reduce risks and raise profitability was gradually implemented for the provision of infrastructures and public utilities. This paper evaluates the more typical forms of private sector involvement and its actual importance (by type of public utility and by region), and shows that the new strategy has failed in improving the provision of infrastructures in the developing world.

**Keywords:** *infrastructures, ODA, outsourcing, public-private partnership, public utilities, regulation.*

**JEL codes:** H4, H54, I18, I28, L33.

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## **1. Introduction**

Over the past two decades, the capacity of governments to provide public services on their own in an effective and efficient way is being questioned and reassessed at various levels and in different fora. The main arguments stress that not only are government resources invariably inadequate but also that the quality and efficiency of the services they provide are very often rather poor. Public services are frequently seen as ineffective in resource allocation and poor in management. Burdened with bureaucratic procedures, the public sector is usually incapable of acting quickly to adapt to change and, as a result, the services provided will deteriorate over time. Additionally, the public sector does not need to compete and thus it has no incentive to improve quality, particularly in situations where it is the only provider of services.

Accordingly, governments in developing countries have embarked on radical structural reforms, encompassing restructuring and privatisation of infrastructure sectors and a new approach to regulation. On the one hand, there is the influence of the market with approaches such as the outsourcing or subcontracting of functions, competition and charging for services. But at the same time, it has been recognized that conventional support to public providers through loans for capital investment has not achieved the desired results in reducing poverty (Franceys and Weitz, 2003), and so the projected role of Official Development Aid (ODA) changes correspondingly. This new strategy relies on public-private partnerships as a policy instrument to attain multiple purposes such as adequate infrastructure, improving welfare, enhancing efficiency, and so on (United Nations, 2002).

As a matter of fact, the developing world needs far more financing for infrastructure than can be provided by domestic public finances alone and through ODA. The cost of maintaining existing infrastructure and undertaking necessary extensions of its coverage is estimated by OECD (2005) at 7 per cent of developing country GDP, equivalent to about 600 billion US dollars (USD) per year. However, public spending on infrastructure in developing countries is presently around 3 per cent. Given the scarcity of public funds in most developing countries, the obvious solution is to invite greater private sector participation, but this too is problematic since investing in infrastructure projects in many parts of the world is not financially viable from a

private sector perspective. One solution is to expand the use of public-private agreements in infrastructures, relying on ODA to enhance the quality of projects, reduce risks and raise profitability. The economic rationale for doing so, in effect subsidising private enterprises, rests on the presumption of market imperfections. As it is well known infrastructures produce positive externalities and such market failures induce private firms, which act in their own best interests, to underinvest in infrastructures from society's perspective. Such agreements were responsible for USD 786 billion in infrastructure investments between 1990 and 2003. Some of this money obviously came from public finances, but the private sector nevertheless contributed significantly to infrastructure development over the period – far in excess of what governments could have financed on their own – and assumed several of the risks (e.g. commercial and currency risk) that would otherwise have occurred in the public sector.

This article considers the role of the private sector and the donor community in helping to overcome shortfalls in both the quality and quantity of infrastructure and public utilities in developing countries. While both governments and the donor community typically use PPP and private sector involvement (PSI) interchangeably the two concepts are in practice very different. Given these conditions, in the remainder of this paper we'll begin by elucidating what we mean by PPPs and their potential alongside with the conditions needed to build them in developing countries. We'll dedicate section 3 to the make versus contracting out decision. In section 4 the more typical forms of private sector involvement in the provision of infrastructures are characterized. Section 5 deals with the need to assure an effective regulatory framework in developing countries. The paper closes with some conclusions for discussion and future research.

## **2. What is a PPP? What conditions do affect the building of a PPP?**

We define PPP as a sustained collaborative effort between the public sector and the private sector<sup>1</sup> to achieve a common objective while both players pursue their own

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<sup>1</sup> The composition of the private sector is complex. The private sector can be categorized into private-for-profit institutions and private not-for-profit organizations. Commercial enterprises essentially

individual interests. This definition implies that in a PPP each partner shares in the design; contributes a fraction of the financial, managerial and technical resources needed to execute, and sometimes operate, the project in accordance with each partner's comparative advantage, and partially takes on the risks associated with the project and obtains the benefits, expected by each partner, which the project creates. So, in order to fulfil the criterion of a 'partnership' there must be some ongoing set of interactions, an agreement on objectives and methods as well as a division of labour to achieve the goals.

The above definition has implicit some assumptions. Firstly, a PPP requires a shift in the roles and attitudes of public and private entities, moving away from the usual client-contractor approach towards focusing on the core functions of supervision and regulation by the public authorities, and assuming greater responsibilities and risks in execution, operation and the mobilisation of resources by the private sector. This change in roles requires a transformation of the partners as some capacities of the public sector are transferred away to the private sector. Secondly, a sustained collaborative effort in order to attain a common objective is assumed. The basis of the third 'P' of the PPP, entails a joint alliance between the public and private sectors beyond the traditional contractual relationship. Such association brings the best of each partner's competence to optimise the achievement of the common objective. Given the mid-term, or long-term, nature of that objective and the transformation generated by the shift in roles, the joint alliance needs to be sustained over a long period of time. The longer the nature of the objective, the larger the uncertainties associated with the project are and the more critical and relevant the third 'P' of a PPP becomes. Finally, an assumption on the individual interests of each partner is crucial: generally, it consists of a return of investment for the private partner<sup>2</sup>, and a net benefit to the society and the economy as a whole for the public entity, through the achievement of specific goals, such as the improvement of accessibility, the

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belong to the category of profit-oriented organizations, and NGOs, professional associations, and other non-government institutions are examples of not-for-profit organizations. Whereas the focus of PPP at first has been on the relationship between the government and the for-profit sector, recently there has been a shift of attention towards the role of the non-profit sector and its possible contribution in providing goods and services.

<sup>2</sup> If the private partner belongs to the not-for-profit category, the private interest is generally a way of attaining its own main object more easily.

reduction of transport costs or the actual provision and deliverance of other public utilities in an efficient way<sup>3</sup>. These interests are channelled through the definition of risks. Thus, a clear assignment of risks is a precondition for the implementation of a PPP project.

Whereas the idea of a PPP in general is theoretically appealing, its practical implementation in developing countries is not so easy as theory suggests. Often donor agencies and governments promote privatisation and provide subsidies to private entrepreneurs in the name of building public-private partnerships (World Bank 1986), while they are promoting other forms of private involvement. Even though the promotion of a free market economy may be important to development, it is not equivalent to public-private-partnerships. The confusion in using the expression PPP biases the debate on the functions of the different actors and basically reduces the role of government to providing a favourable environment to the other social actors. Partly owing to this confusion and partly because of overlooking the conditions to build PPPs, governments of developing countries and the donor community frequently overvalue the actual usefulness of private sector involvement. This overvaluation is visible in the optimistic role attributed to PPPs by international agencies (UN, 2002) and, particularly, in the constitution of the New Partnership for African Development (see, NEPAD, 2001)<sup>4</sup>.

The building of a PPP in a specific country is affected by both the macroeconomic and the microeconomic conditions: while the former encompass all the incentives for putting up a PPP, the latter include all those circumstances related to the capacities of the different actors in acting as a competent partner. Concerning the macro level, political factors are important: without an overall political environment favouring both private for-profit and not-for-profit activities no real partnership can be established. Apart from this political factor, the economic situation in a country is important. A financial and economic crisis is often the starting point for the rethinking of government activities. Although a financial crisis would usually be the

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<sup>3</sup> The public authorities must put a clear and stable framework that is sufficiently transparent to the private partner in place. This is notably the case for technical standards, taxation, and the setting of toll levels.

<sup>4</sup> For an examination on the capacity of NEPAD to overcome underdevelopment, see Luiz (2006).

most important factor for building a partnership, it is a bad moment to do that because the public partner is debilitated in its capacity of negotiation.

As a matter of fact, we can mostly find two factors in the origin of the increasing attentiveness to PPPs. First, there are fiscal pressures that have led governments to look for innovative solutions and for maximum effectiveness in reallocating resources. In this strand, various studies have shown that there is a large potential for gains in efficiency in the public sector. Second, other studies demonstrate that private providers both non-profit and for-profit oriented can play an important role in infrastructures and public utilities provision, a role which has been, in the past, largely neglected by governments. However, in spite of the role that the private sector can play, the financial engagement of the government is crucial in the mid to long-term for the sustainability of a PPP, as the poorer part of the population will continuously depend on public support. Finally, on the macro level, the legal framework is important. The credibility and transparency of the cooperation between the different players are critical determinants for a long-term success of a PPP.

Concerning the micro-level, several conditions are important too. First of all, there must be an interest and a commitment of some individuals to make a PPP happen. As in the Venezuelan case (Jütting, 1999), the personal involvement of the users of services helped to provide an efficient and equitable service provision. If there is an interest in a PPP and an acceptance of the different partners to be involved, then one has to look at the capacities of the different actors. In this respect, we have to consider not all the skills of the staff to provide specific services, but also the financial availability for an engagement in service provision and the overall organisational and management structure.

To sum up the main strength of a PPP is its capacity of combining the comparative advantages of each partner providing a new good or service or a good or service already produced in a more efficient and effective way. However, this only occurs if some exigent conditions are fulfilled. Of course, it is much more simple, both from government and private sector point of view, to implement an outsourcing solution.

### **3. The outsourcing solution**

The outsourcing of activities formerly done by the public sector was popularised following the discussion of new public management (Osborne and Gaebler, 1993; Pollitt, 1993). Such debate, opened in developed countries, like the USA and the UK, spills over to the developing ones with a considerable impact on public utilities provision in general (Desai and Imrie, 1998). Additionally, in the context of a worldwide welfare systems reform, decentralisation of services from the national to the local level is frequently suggested in conjunction with an improved participation of the population in determining and implementing the services (Mehrotra, 2006). Some international organizations as well as donor agencies believe in outsourcing as an element in this overall strategy (WHO, 1998).

However the private sector is not a homogeneous entity, being the distinction between profit and non-profit organizations an important one, since respective players act for different motives, the variety of private agents is one strength that government must take in good account.

Looking at the private sector in general, the following strengths are usually referred to:

- *Improving quality.*
- *Improving customer service.*
- *Improving management standards.*
- *Investing in research and development.*
- *Developing new services and market-based systems of rationing.*

But, on efficiency grounds governmental agencies need to consider the costs and benefits of outsourcing versus in-house provision. With regard to the benefits, additional to the above mentioned strengths, it is usually argued that outsourcing allows savings on the long-term costs of hiring specialised experts, who may be required only in very specific periods of time being under-occupied for the rest of the time. On the other hand, public bodies often attempt to fill the ‘capability gap’ by

contracting out functions where ‘in-house’ capacity is limited<sup>5</sup>. This may be particularly required for capabilities that are highly specialised.

Consequently, outsourcing, if done in the right fashion, enables governmental agencies to benefit from the combined force of specialization and competition, and allows therefore to reduce their costs substantially. The savings provided by adopting outsourcing, seem in some cases significant. Overall, it has been estimated that the benefits of competitive outsourcing may allocate reductions in costs by as much as 10-20 percent, at the same time as constant quality is maintained (Domberger 1998). If the advantages are so important, public bodies need to assess their functions according to their relevance to their core values, and contract out all the others<sup>6</sup>.

Alongside these attributed benefits to outsourcing, the cost side should not be overlooked (Brueck, 1995). Contracting out will increase transaction costs, including both contracting and monitoring costs<sup>7</sup>. Moreover, the costs related to the loss of monopsony purchasing power and the social costs arising from equity problems (Robinson, 1990; von Otter and Saltman, 1992)<sup>8</sup> could be significant. But, these direct costs are not the only ones that we must control in the outsourcing of public utilities. In this specific sector, contracting-out requires maintaining minimum levels of qualified staff in-house in order to specify employment terms clearly and in a way that fits the specific purposes of the activity, or to correct the service provided externally in the event of provider failure.

In the last twenty-five years, many governments all over the world are turning to private sector participation as an alternative answer to the traditional solutions based on conventional projects centred on public investments in new capacity and training. This movement led the OECD to edit a Best Practice Guidelines for Contracting out Government Services (OECD, 1997). In the same wave more and more governments

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<sup>5</sup> In order to develop specific systems or carry out training on a short-term basis, it could be more effective to acquire capabilities externally.

<sup>6</sup> See Prahalad et al (1990) for a managerial perspective on this subject.

<sup>7</sup> See Coase (1960) for the economic framework in the outsourcing decisions, and Donahue (1989) for its practical applications.

<sup>8</sup> In addition, some other impacts should be taken into account, too. As Mills (1995) argues, the introduction of contracts may both lead to a fragmentation or lack of co-ordination within the broader public service system, and could have an impact on staff resources with a drain of key personnel to the for-profit providers.

in developing countries are embarking in overall reforms with similar solutions (Polidano, 1999). Let us see some of those solutions.

#### **4. Private sector involvement in public utilities**

As highlighted in previous sections, the provision of infrastructures and public utilities has undergone major changes in the last two decades with many developing countries choosing to move away from the traditional public sector model of service provision and to introduce private sector participation. The involvement of the private sector in public services has followed, in general, six basic forms<sup>9</sup>:

- **Short term service contracts.** In this option, which has a typical duration from 6 months to 2 years, specific tasks, usually everyday maintenance jobs, are contracted to the private sector, but overall services management remains within the public sector. This type of contracts has been implemented in many countries with good records of success and is often seen as a first step towards a PPP. In order to define the compensation to the private sector partner, two types of contract are frequent. In a quantity-based maintenance contract, the remuneration of the contractor is based on unit prices defined in the contract and the quantities are measured on site. The other type — performance-based maintenance contract — is derived from the previous type of arrangement, by shifting the focus from administration (maintenance activities and resources) to certain performance conditions valued by the users. In this case, the payment is based on a fee directly stated in the agreement and linked to performance indicators. The water sector of Mexico City provide some examples of these contracts in what respects to: i) consumer census, mapping the network, metering; ii) regularization of billing; iii) loss detection and reduction. This option can inject good technical expertise but it is unlikely to greatly improve performance where overall management is weak.
- **Management contract.** A management contract is an arrangement by which a private company is entrusted with various types of tasks, relating to the

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<sup>9</sup> For an assessment of the potential of some of these forms of private sector involvement to serve the poor, see Franceys and Weitz (2003).

organization and maintenance operations usually performed by the public authority. This type of contract involves the payment of a fee to the private company. Usually, the function of the private firm is to respond to day-to-day routine maintenance needs by contracting private companies, on behalf of the public entity. This option, which has a typical duration from 3 to 5 years, can provide gains in managerial efficiency but, because the public entity remains responsible for the investment, the potential gains can be difficult to enforce. An illustrative example is the four-year contract of Gaza Strip in water and sanitation, one of the first private sector initiatives in the Middle East water sector, beginning in mid 1996. The contract was celebrated between Palestinian Liberation Organization and the consortium of Lyonnaise des Eaux/Khatib and Alami (LEKA), following a competitive bidding process. In this case the uncertain political environment and limited availability of baseline data meant that a Management Contract was the only option that could be followed. However, other examples abound in the waste collection in several cities: Caracas, Seoul, Bangkok, Jakarta, Lagos, etc.

- **Lease.** In this form, which has a typical duration from 10 to 15 years, a private company leases the assets of a utility, and maintains and operates them, in return for the right to revenues. The main advantage of this option is that commercial risk is borne by the private sector, giving strong performance incentives. However, it is administratively demanding and the public entity remains responsible for investments. This is the case of water supply in Guinea (Conakry and 16 other towns, in 1989).
- **Greenfield Projects.** These are new projects usually built and operated by the private sector, which takes on the commercial risk. Political and exchange rate risk can sometimes be shared with the public sector. Such projects can take many forms, but the most common is Build-Operate-Transfer (BOT). In this option, very usual in public works, the private sector develops, finances and operates bulk facilities. Under a BOT, the responsibility of the concessionaire is not limited to the operation and maintenance of the infrastructure but it also includes a component of initial construction, upgrading or major road rehabilitation. Massive

investment and consequent mobilization of private funding sources are therefore required from this company, which is to be repaid from the revenue collected from service users (usually tolls). The BOT arrangement stresses the responsibility of the private entity during construction and operation of the infrastructure and the transfer of the assets to the public entity at the end of the operation period. The high initial investment required from the private sector and the consequent long concession period turn the distribution of risk between the parties into a key element of success in such schemes. Other forms of greenfield projects include Build-Own-Operate-Transfer (BOOT), Design-Build-Operate (DBO), Design-Build-Finance-Operate (DBFO) and Build-Lease-Transfer (BLT)<sup>10</sup>. This is a good way of getting efficient delivery of bulk services, with private investment but it is not a good solution if supporting distribution systems are in bad shape, or traffic levels are uncertain. The typical duration of these types of private sector involvement varies from 15 to 30 years. An illustrative example is the DBO of solid waste in Hong Kong: for refuse transfer stations and a chemical waste plant.

- **Concession.** In a concession a public entity owns the assets, but it contracts with the private sector for operations, maintenance and investment. For instance, a road concession is an arrangement under which, the owner of the road, delegates to a private entity (concessionaire) the responsibility for providing and maintaining a specified level of service to road users in exchange for the right to collect revenue from those users. Besides the issues inherent in a concession agreement, an operation and maintenance concession is similar in scope and approach to what is required and negotiated in a typical operation and maintenance agreement between private parties under a BOT-type arrangement. This form, which has 25 to 30 years as typical duration, has potential for high efficiency in operations and investment, but requires considerable commitment and regulatory capacity. One of the first genuine concession contracts in Africa was signed between SEEG (Société d’Energie et d’Eau du Gabon) and the State of Gabon for the operations of both water and electricity services throughout the country, in July 1997. This

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<sup>10</sup> Other variations on this type of contract have been implemented with a consequently growing number of acronyms used to label them (v. g., BOO, BTO).

contract established concrete investment obligations and extensive coverage targets for expanding the service to previously unconnected rural areas<sup>11</sup>. Other examples of concession contracts cover water and sewerage concession in Manila, beginning in 1997; the concession of the water and sewerage system of the city of Bucharest to the French firm, Vivendi, in 2000; Concession Schools in Colombia, Bogotá, in 1999, etc.

- **Divestiture:** the assets of a public utility are sold to the private sector. This was the case of the privatisation process via sales of assets made by the government of Chile in the water sector where five companies were privatised in the 1998-2000 period. This form has potential for high efficiency gains. However, it requires credible regulatory framework and a careful preparation<sup>12</sup>. Its usual duration is indefinite, but it may be limited by a license.

From the above description, it is obvious that options that yield higher social benefits also tend to demand a higher level of government commitment, and a better prepared institutional framework. If the principal reason of the participation of the private sector is the large potential for gains in efficiency in the public sector, it may be expected that projects with higher level of private sector involvement deliver more efficiency gains. However, the consequent risk of failure grows correspondingly. But the above description also shows that these forms of private sector involvement (PSI) are more typical adhesion contracts than authentic PPPs, as defined in section 2. The drop of some assumptions inherent to the PPP concept has necessarily harmful consequences in terms of efficiency and promotion of wellbeing.

According to the *PPI database* (World Bank, 2006), between 1990 and 2003, there were over 2750 projects with private participation in infrastructure in developing countries, with total public and private investment in these projects amounting to 785.758 billion of US 2002 dollars (table 1). The analysis of the importance of private

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<sup>11</sup> See World Bank (2004) for assessing some particularities of this concession in what respects to the regulations mechanisms.

<sup>12</sup> As World Bank (2004) shows, Chile's reform strategy was gradual, in contrast with the full-blown privatizations seen in some other Latin American countries.

sector involvement in developing countries shows a concentration around a scarce number of sectors and around a reduced number of countries. Table 1 illustrates the importance of private involvement grouped in four main types of PSI, in four sectors of infrastructures and public utilities and six large regions.

Table 1. Type of PSI by sector of public utility and region

	Total (USD millions)	Type of PSI:			
		Management and Lease (%)	Concession (%)	Greenfield (%)	Divestiture (%)
<b>Sector:</b>	<b>785,758</b>	<b>0.1</b>	<b>14</b>	<b>45</b>	<b>41</b>
Energy	260,224	0.0	4	54	42
Telecom	362,194	0.1	1	44	54
Transport	123,553	0.3	57	37	6
Water	39,787	0.3	67	18	15
<b>Region:</b>					
E. Asia and Pacific	186,729	0.0	16	63	21
Europe and Central Asia	118,580	0.1	5	46	49
Latin America	373,592	0.1	17	29	53
Middle East and North Africa	30,958	0.1	25	47	28
South Asia	45,026	0.0	2	90	8
Sub-Saharan Africa	30,879	1.4	12	53	34

Source: World Bank (2006).

It is apparent from the table that private participation in infrastructure in developing countries has been concentrated in the telecommunications sector, which accounted for 46.1% of the cumulative investment in 1990-2003. Energy, which includes electricity and the distribution of natural gas, attracted the second largest share of investment, accounting for 33.1% of the cumulative investment in private infrastructure projects. In contrast, private participation in the water sector has been limited, accounting for 5.1% of cumulative investments over the same period. The limited amount of private involvement in water utilities is likely to reflect the inherent difficulties that face privatization in this sector, in terms of the technology of water provision and the nature of the product.

The transport sector represents only 15.7 per cent of the total investment. One half of this investment has gone into toll roads, with the rest in railways, seaports and airports. Unlike in telecommunications and energy, concessions are by far the most important form of PSI in this sector, owing partly to the political sensitivity of transferring public assets to the private sector. In the 1990s, three quarters of toll road concessions involved expansion or rehabilitation of existing roads rather than the construction of new infrastructures. Divestitures have been rare and have mostly occurred in China where minority stakes were sold in several state-owned toll road companies in order to finance future road construction (OECD, 2005).

In regions, policymakers appear to have a preference for greenfield projects, which allow new infrastructure to be built without necessarily having to embark on major structural reforms. Exceptions are found only in Latin America and transition economies where divestitures were more widespread, reflecting major privatization programs in many countries in these regions. The greater prevalence of greenfield projects in Asia and of divestitures in Latin America show that private investment has tended to complement public expenditure in Asia and replace it in Latin America. As a matter of fact, in Latin America private participation in infrastructure was often part of a broader reform program where divestitures and concessions of existing assets predominated in the cumulative investment in private infrastructure projects. In contrast to Latin America, the Asia region has focused on the creation of new assets through greenfield projects.

Table 2 shows the occurrence of each type of PSI across sectors and regions. Most concession contracts are seen in the transport sector and most divestitures in telecoms. Greenfield projects were quite equally divided between energy and telecommunications, as are management and lease contracts between telecoms and transport. The largest share of both concessions and divestitures has arisen in Latin America, while greenfield investments are much more evenly distributed. Almost one half of the management and lease contracts have been implemented in Sub-Saharan Africa.

Predictably, divestitures and greenfield projects, which involve actual investment, have taken the largest part of PSIs (85.6%). The latter tend to be most prevalent in the

energy sector, divestitures in telecoms, and concessions in both transport and water sectors.

Table 2. Importance of PSIs by sector and region

	<b>Type of PSI:</b>			
	Management and Lease	Concession	Greenfield	Divestiture
<b>Sector:</b>	884	112,653	352,489	319,732
Energy	2%	10%	40%	34%
Telecom	44%	5%	45%	62%
Transport	40%	62%	13%	2%
Water	15%	24%	2%	2%
<b>Region:</b>				
E. Asia and Pacific	0.2%	27%	33%	12%
Europe and Central Asia	8%	5%	15%	18%
Latin America	43%	57%	31%	62%
Middle East and North Africa	2%	7%	4%	3%
South Asia	0.0%	1%	11%	1%
Sub-Saharan Africa	48%	3%	5%	3%

Source: World Bank (2006)

Although almost all developing countries have witnessed some form of private investment in infrastructure since 1990, private investors in infrastructure have tended to be directed to a small group of developing countries: the ones with relatively large, rich or fast-growing markets. Table 3 shows the top 25 destinations for investment in infrastructure in developing and transition economies in the 1990-2003 period. The 25 countries presented in table 3 account for almost 90 per cent of total. Among the developing regions, Latin America accounted for the great bulk of the cumulative investment in infrastructure. Together three Latin American countries (Brazil, Argentina and Mexico) account for more than a third of total PSI investment in the developing world.

The extreme concentration of investment in Latin America countries, where corruption has high indexes by international standards or in Transition Economies acknowledged by poor market regulation, can explain, at least partly, some recent disillusion about the private sector involvement, which contrasts with the higher expectations prevalent in the middle of 1990s. OECD (2005) explains the decrease in

the actual investment in infrastructure projects involving PSIs with the fact that either developing country authorities, or investors (or both) may have had too high expectations to what could be reached.

Table 3. Foreign private sector involvement by country, 1990-2003

Country	USD millions	per cent	Country	USD millions	per cent
Brazil	157,098	19.7%	Czech Repub.	16,388	2.1%
Argentina	72,858	9.1%	South Africa	15,959	2.0%
China	61,170	7.7%	Russia	14,784	1.9%
Mexico	59,753	7.5%	Colombia	13,779	1.7%
Malaysia	36,695	4.6%	Peru	13,762	1.7%
India	33,108	4.2%	Morocco	12,812	1.6%
Philippines	31,017	3.9%	Venezuela	11,858	1.5%
Indonesia	29,210	3.7%	Pakistan	7,487	0.9%
Thailand	23,662	3.0%	Slovak Repub.	5,837	0.7%
Chile	22,003	2.8%	Egypt	5,689	0.7%
Poland	18,025	2.3%	Romania	5,321	0.7%
Turkey	17,719	2.2%	Bolivia	4,848	0.6%
Hungary	17,415	2.2%	<b>Top 25</b>	<b>708,257</b>	<b>88.9%</b>

Source: World Bank (2006).

PSIs have been an important vehicle for the investment of OECD multinational companies (MNCs) in developing countries' utilities and infrastructure sectors. According to OECD (2005) there is a propensity for larger investment size to involve a greater domination by multinational players. For instance, in telecommunications, the top 20 investors account for over 60 per cent of total investment (see OECD, 2005, table 5). MNCs domiciled in OECD countries represent only 1 per cent of private investors, but 30 per cent of total investment in telecommunications and energy. Consequently, infrastructure projects are under control of a small group of large firms.

This implies that, for example, a government negotiating the terms of private participation is not necessarily faced with an ‘atomistic’ group of suppliers, and may in practice be dealing with one corporate entity with a market power comparable, or even superior, to its own. This fact needs to be kept in mind when we emphasize the need for strong regulatory bodies in developing countries. Ultimately, the sustainability of the reforms and the ability of the public sector to use money more effectively in leveraging private money will depend significantly on the political commitment to design and carry out effective regulatory policies, which means the existence of independent regulatory bodies<sup>13</sup>.

## **5. The need for regulation**

The main changes in the last two decades in the provision of infrastructure and public utilities, both in developed and developing countries, calls for strong and competent economic regulation, in order to ensure that the interests of all parties are protected. Such protection is necessary first and foremost, to defend the customers’ interests but also those of the public and private parties to a contract. Since the beginning of utility reforms in the late 1980s – early 1990s, it is estimated that about 200 regulators in some 130 countries have been granted the functions of regulating public utilities such as telecommunications, water, and electricity (World Bank, 2004)<sup>14</sup>.

In developing countries, a much more intrusive and demanding form of regulation is required than in developed ones. In the former the need for regulation is more vital, because they are usually characterized by non-competitive industry structures and/or lack of capital market discipline. In such environments, too little market information is revealed and information asymmetries are overwhelming. In addition, regulators in developing countries face other specific challenges, when large portions of the customer base for infrastructure services are poor and unconnected, tariffs are being kept artificially low, baseline information for decisions tends to be limited or

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<sup>13</sup> For details on how specific features of regulatory contracts have been implemented in various developing countries and the lessons that can be drawn from that knowledge, see Bakovic *et al.* (2003).

<sup>14</sup> Those institutions in charge of regulating public utilities, which we refer to as ‘regulators’ in this paper, can either take the form of an independent regulatory agency, or be set up as a specialised cell under line Ministries, or even be a department within line Ministries.

unreliable and the regulators have difficulties in establishing their credibility and in implementing sound governance arrangements. On the other hand, the reduced educational level of the population and the scarcity of infrastructures, which may restrict the availability and circulation of information, pose additional problems to the regulators and influence negatively the effectiveness of the regulation in developing countries.

As a matter of fact, to be effective, regulators are required to fill three qualities: competence, this quality being measured by access to technical expertise in a wide variety of areas; independence, both from government interference and from capture by service providers and interest groups; and legitimacy, i.e., both long-lasting by existing legal principles and practices, and being transparent and accountable. Many, if not all, regulators in developing countries lack one or all of the qualities required for effective regulation. These deficiencies can be due to different reasons, including limited resources, repeated political interference in regulatory decisions, difficulty in attracting and retaining competent staff, and short or no history of performing regulatory functions. All these deficiencies are particularly apparent in the case of countries emerging from social conflict or where the political environment makes it difficult to set up any kind of independent institution.

Given the propensity for larger investment in infrastructures to involve a greater domination by multinational players, one can expect a great asymmetry of power between such MNCs and the regulators of the developing countries, with direct consequences on its independence. But, where there is lack of independence we can't prospect either great legitimacy or competence. This lack in turn limits the capacity of agencies in charge of regulation to act as effective regulators, i.e. to promote adequate levels of investment in the regulated sector through the setting of tariffs that recover costs without depriving part of the society from using the services, to attract private investment and/or to monitor the public sector for superior performance.

Of course, developing countries can contract out regulatory functions taking profit of the developing assistance<sup>15</sup>. However, not all regulatory functions can be contracted out. Some of them such as dispute settlement—whether through arbitration, conciliation, mediation, or legal action— may be ‘contracted out’ to international bodies such as the London Court of International Arbitration. These bodies, operating on the basis of their strong reputation for competence and independence, draw their legitimacy from obligations undertaken by governments to recognize and enforce arbitral decisions. Thus arbitral decisions may substitute to some extent for regulatory decision-making (such as in tariff setting) and provide an appeal mechanism for regulatory decisions (such as on the rate base). But their practical effectiveness is limited by the timeliness of the arbitration process, the availability of expert capacity, and the ease of enforcement. Moreover, for some stakeholders the confidentiality of most arbitration procedures may call into question the legitimacy of the regulatory process (Bertolini, 2004).

Furthermore, even if some functions can be contracted out, some of them, the more important for independence, such as to specify performance targets and monitor their achievement must be maintained in-house. But, above all, developing country governments can’t contract out the capacity of creating adequate arrangements to ensure transparency and accountability, including mechanisms to avoid capture by external contractors and to encourage competition. To sum up, the problem is not absence of instruments for assessing, designing, and monitoring arrangements but the lack of capacity to use those instruments efficiently and effectively for superior performance. This is certainly a topic that calls for more attention from donors. In addition, as has been acknowledged, ‘paradoxically, those regulators who would most benefit from contracting out are the ones that have most difficulties in entering into such agreements to bring about a satisfactory outcome, either for lack of financial capacity or capacity to monitor performance...’ (World Bank, 2004).

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<sup>15</sup> For a discussion of the theoretical rationale for contracting out by public or private agencies and how this rationale may be applied to utility regulation in order to improve regulatory effectiveness, see World Bank (2004).

## **6. Concluding remarks**

The past two decades have exposed a wave of reforms in all parts of the world. This shift in practice has important implications in the way one thinks about the role of the government in providing adequate physical infrastructure. Several factors come into play in reaching efficient decisions. Factors like the need to fill a ‘capability gap’ or to reduce costs would advise the outsourcing of some functions. If this is the case, public bodies face the need of, at least, maintaining quality constant. Such decisions should be based on the identification of the agency’s core functions and consideration of the costs and benefits of contracting out versus in-house provision. The new public management brought to the front stage the private sector involvement in delivering goods that were formerly considered public. Such involvement is frequently viewed as some form of PPP. However, the private involvement usually lacks some characteristics of authentic PPPs.

The development of an outline on how to build a PPP in the public sector of developing countries is both undesirable and unattainable. It depends on a variety of country specific conditions that set the framework for cooperation between the different actors. Moreover, PPPs vary across-countries in targets, forms, processes and parties. The most successful co-operative arrangements stem from a flexible approach drawing and adapting experience of other cases, but they are not simple copies (Gentry and Fernandez, 1998).

History suggests that to implement the best practices is often more difficult to achieve than to begin large reforms. If governments and international development aid support this emerging policy agenda, a new hybrid model of PPP will emerge with a significantly larger positive impact for users, operators and current, as well as future, taxpayers. However, the corrections needed to the reform path require a strong political commitment at the national as well as at the local level. This commitment is also needed because addressing these issues implies strong redistribution of rents. Additionally, the civil service remains crucial to the development process, as we still need government, the rule of law and accountability structures to be in place.

On the other hand, the use of PPPs for the provision of infrastructures and public utilities, where the involvement of foreign private partners is more visible, is subject

to other drawbacks. First, developing countries are to a great extent dependent on the foreign investment of a restrict number of large companies, with the consequent effects on the negotiation and enforcement of the contracts. Second, the capacity of these countries to design a regulatory framework (either in legislation or through a contract) is very limited. Third, the non-competitive industry structures and/or lack of capital market discipline make the quality and credibility of regulation mandatory. The key challenge for policymakers is how to form effective partnerships among different players in such a way that public utilities can be served efficiently, effectively, and equitably.

Additionally, it is doubtful at best, that the new strategy used by ODA has been well succeeded in improving the provision of public utilities in the developing world, particularly in its less developed part. Foreign investment was concentrated in a small group of developing countries with relatively large, rich or fast-growing markets. So, to the optimistic wave verified in the first half of 1990s, characterized by an expansion of public-private agreements in infrastructures, relying on ODA to enhance the quality of projects, reduce risks and raise profitability, a more realistic one followed. In the meantime, bilateral ODA for infrastructure has dropped from USD 15 billion in 1996 to USD 8 billion in 2002, and borrowing for infrastructures by international financial institutions has dropped abruptly (OECD, 2005).

## References

- Bakovic T, Tenenbaum B, Woolf F. 2003. Regulation by Contract: A New Way to Privatize Electricity Distribution? World Bank Working Paper n° 14, World Bank, Washington, DC.
- Bertolini L. 2004. Regulating Utilities, *View Point*. April 2004, note number 269, World Bank, Washington, DC.
- Brueck, F. (1995), Make versus Buy: The Wrong Decisions Cost, *McKinsey Quarterly*, 1: 28-47.
- Coase RH. 1960. The Problem of Social Cost, *Journal of Law and Economics*, 3: 1-44.
- Domberger S. 1998. *The Contracting Organization*, Oxford University Press.

- Desai V, Imrie R. 1998. The new managerialism in local government: North–South dimensions. *Third World Quarterly* **19**(4): 635–650.
- Donahue J. 1989. *The Privatization Decision*, Basic Books, New York
- Franceys R, Weitz A. 2003. Public–Private Community Partnerships in Infrastructure for the Poor, *Journal of International Development* **15**: 1083–1098. DOI: 10.1002/jid.1052.
- Gentry B, Fernandez L. 1998. Evolving Public-Private Partnerships: General Themes and Examples from the Urban Water Sector, in OECD Proceedings: *Globalisation and the environment. Perspectives from OECD and Dynamic Non-Members Economies*, Paris, pp. 99-125.
- Jütting J. 1999. Public-private-partnership and social protection in developing countries: the case of the health sector, Paper presented at the ILO workshop on “The extension of social protection”, Geneva, 13/14.12.1999.
- Luiz, J. 2006. The New Partnership For African Development: Questions Regarding Africa’s Response To Its Underdevelopment. *Journal of International Development* **18**, 223–236. DOI: 10.1002/jid.1215.
- Mehrotra, S. 2006. Governance And Basic Social Services: Ensuring Accountability in Service Delivery Through Deep Democratic Decentralization, *Journal of International Development* **18**, 263–283. DOI: 10.1002/jid.1219
- Mills G. 1995. Improving the Efficiency of Public Sector Health Services in Developing Countries: Bureaucratic versus market approaches. Departmental Publication No. 17, London School of Hygiene and Tropical Medicine.
- NEPAD. 2001. *The New Partnership for Africa’s Development*. NEPAD: Abuja.
- OECD. 1997. *Best Practice Guidelines for Contracting out Government Services*, Paris: OECD-PUMA.
- OECD. 2005. Investment for African Development: Making it Happen. Background information in support of Session 5 of the Roundtable: Encouraging Public-Private Partnerships In The Utilities Sector: The Role Of Development Assistance, 25-27 May 2005, NEPAD/OECD Initiative.
- Osborne, D. Gaebler, T. 1993. *Reinventing Government: How the Entrepreneurial Spirit is transforming the Public Sector*, Ringwood: Penguin Books.

- Polidano, C. 1999. Public Management Reform in Developing Countries: Issues and Outcomes. *Public Management* 1(1): 121–32.
- Pollitt, C. 1993. *Managerialism and the Public Services: Cut or Cultural Change in the 1990s?* 2nd ed, Oxford: Blackwell Publishers.
- Prahalad CK, Hamel G. 1990. The Core Competence of the Corporation. *Harvard Business Review*, May-June, 79-91.
- Robinson R. 1990. Competition and Health Care. A Comparative Analysis of UK Plans and US Experience. Research Report No. 6. London, Kings Fund Institute.
- U N. 2002. Report of the International Conference on Financing for Development (Monterrey, Mexico, 18-22 March 2002), New York: United Nations.
- von Otter C, Saltman RB. 1992. *Planned Markets and Public Competition. Strategic Reform in Northern European Health Systems*. Buckingham.
- WHO. 1998. *Health Insurance Schemes for People outside Formal Sector Employment* (ARA Paper number 16), Geneva, WHO, Division of Analysis, Research and Assessment.
- World Bank. 1986. *Divestiture in Developing Countries*, Washington DC, World Bank.
- World Bank. 2004. *Contracting Out Utility Regulatory Functions, Final Report*, Washington D.C., World Bank.
- World Bank. 2006. Private Participation in Infrastructure Projects Database, Washington DC, World Bank. (<http://ppi.worldbank.org/>).

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