Determinants of Entry Modes Choice in Developing Countries: Bargaining between Host States and MNCs

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Abstract:
Although little research has focused on entry mode choice in network industries there is increasing evidence that states generally prefer to retain ownership and control over critical infrastructure sectors such as energy, water and telecommunications. Some of these works have also acknowledged that factors external to the private firm might influence the type of MNCs participation through their mode of entry. In this study, we extend previous research by proposing a broader framework that allows for a range of provision roles, funding and asset ownership scenarios in a spectrum from minimum to maximum participation by MNCs in the water industry. Emphasis is on explaining the drivers that guide multinational companies to choose a particular mode of entry in developing economies.

Keywords: Entry mode; water industry; multinationals; contract choice
1. Introduction.

The mode-of-entry decision is a critical element of international expansion. It substantially influences firms’ resource commitment, investment risk, degree of control, and profits from international operations (Shrader, 2001). Entry-mode decisions are costly to reverse, and thus have significant implications for long-term performance, even for large firms (Hill et al., 1990). The management literature has identified numerous firm-level factors that affect entry mode (Davis et al., 2000; Delios and Beamish, 1999; Shrader, 2001), as well as country-level factors such as political risk, national culture, and institutional characteristics (Henisz and Delios, 2001; Rosenzweig and Singh, 1991; Yiu and Makino, 2002). Because all these modes involve resource commitments (although at different levels), firms’ initial choices of a particular mode are difficult to change without considerable loss of time and money (Root, 1987). Entry mode selection is therefore, a very important, if not critical, strategic decision.

In this study we consider observed contract choices as the outcome of negotiation between multinational companies (MNCs) and host governments on entry mode. By drawing from international business (IB) literature and broader literature related to new institutional economics, we describe a set of behavioral assumptions for MNCs and host governments in order to derive some hypotheses examining the balance of bargaining power: What are the determinants of contract type as the outcome of bargaining between host countries and MNCs prior to project initiation?

Previous work on entry mode decisions have analyzed firm-specific advantages –and associated bargaining power– as reflected in the amount of ownership in an equity vs. non-equity setting. In this study we contribute to the IB literature by extending previous analysis to the particular case of network industries (e.g. telecommunications, energy, and water) where, according to Zarco-Jasso (2005), it is suitable to disentangle two additional dimensions (i.e. funding and control) in explaining observed governance modes. This allows for a more fine-grained characterization where each entry mode is defined according to whether public or private parties operate the project, whether public or private parties provide capital, and whether public or private parties own the assets. Thus, contract modes are classified exhaustively according to which “dimension” of governance is in public or private hands. Furthermore, since we analyze entry modes as the
outcome of negotiation between MNCs and host governments, we consider exclusively projects where there exist investments coming from foreign investors. This is to isolate projects where local companies are involved as private investors and thus observed contract choices can be actually interpreted as joint MNCs-host governments’ decisions concerning water distribution projects.

By the same token, we focus in developing countries because these form a heterogeneous group where local host governments need to deliver improvements in services and must balance political, social, and economics objectives during market liberalization processes of previously state-controlled sectors (Doh, 2000; Doh et al., 2004). That is, private participation in infrastructure projects is seen as potentially circumventing some of the hazards of full public ownership (with its dangers of bureaucratization, corruption and inefficiencies) or complete privatization (with its dangers of monopoly profits, underinvestment and self-enrichment by individual entrepreneurs).

The water industry represents an extreme case where the market is dominated by worlds few water multinationals: Veolia and Suez—with 25m and 14m domestic customers in France, respectively—and the British RWE/Thames. All them are looking abroad partly because their home markets are mature and because these MNCs see opportunities, especially where governments have started to liberalize markets—and price water properly. Indeed, one common characteristic of MNCs in network industries (i.e. telecommunications, electricity, natural gas, and water) is their operation under natural monopoly conditions. That is, government intervention that veils for public interest is required. The entry literature has largely overlooked this particular condition of MNCs offering services in network industries.

In addition, the water industry exhibits particular characteristics that makes it a “politically salient” sector. For instance, water distribution contracts are often agreed at the local level in the absence of a national regulatory framework defined in law. Entry mode is agreed on ad hoc basis where the regulatory framework and agency are frequently based on contractual provisions rather than primary legislation. Indeed, the regulatory regime is specific to a city or region and
structural reform of the sector and the establishment of a regulatory agency is much rarer than in the telecoms and power sectors (Estache and Goicoechea, 2005). In addition, since the technologies to produce and distribute water are well known and relatively stable compared with energy and telecoms sectors, recent studies in this industry (e.g. Menard and Shirley, 1999; Dinar, 2004) suggest a major impact of institutional factors on contract choice.

This paper is organized as follows. Section 2 begins by providing a broad description of the water industry whereas section 3 introduces a set of behavioral assumptions regarding MNCs and host countries which are of help in describing the theoretical framework regarding contractual entry modes and their governance dimensions. Section 4 discusses the considerations informing the choice of governance mode dimensions, which constitutes the basis for the associated econometric specification. Finally, I discuss the results obtained throughout the analysis and offer conclusions.

2. The water industry in developing countries and private sector participation in service provision.

In recent times water is becoming a fast globalizing industry with a significant profit potential. The World Bank places the value of the current water market at close to $1 trillion; however, only 5 percent of the world’s population is currently getting water from corporations (The World Bank, 2003). As many developing countries are concentrating their limited resources on the immediate task of providing water supply, they are unable to invest enough resources (Dinar, 2004).1 Indeed, according to UNCTAD reports, 94 percent of the 895 regulatory changes made in foreign direct investment (FDI) policies by governments were favorable to foreign investors (United Nations Development Program, 1999). These changes included more liberal entry, fewer performance requirements, more incentives, more sector liberalization, and more guarantees and protection to investors. As a result of these trends –and because liberalization occurred in so

1 In addition, the demand for water resources is growing much faster than supply in many overpopulated countries. For instance, irrigation—that contributes to 70 percent of food production in China and 50 percent of the same in India—has expanded significantly; it counts for more than three quarters of total water use (FAO, 1996).
many countries simultaneously—competition among host countries for FDI progressively increased, with each country trying to be more FDI-friendly than the other.

Although the introduction of more liberal FDI policies has been partly voluntary, to some extent the pace has been influenced by multilateral institutions—like the International Monetary Fund (IMF), the World Bank, and the World Trade Organization (WTO)—that have systematically strengthened the bargaining power of MNCs and weakened that of host countries (Ramamurti, 2005). A particularly consequence of this trend was that sectors in which FDI had previously been highly restricted, such as public utilities, were suddenly opened up to foreign investment. Nowadays, the world of private participation in water distribution is dominated by two French multinationals: Suez Lyonnaise des Eaux and Veolia (formerly Vivendi SA).² Between them they own, or have controlling interest in, water companies in over 120 countries on five continents, and distribute water to almost 200 million people in the world (see Appendix 1).

The global expansion of both water MNCs can be explained by a combination of two factors, the declared need to consider water as an economic good on the one hand, and private participation—as complementing public resources—on the other (Finger, 2001). By the same token, water MNCs follow a dual strategy, both based on economies of scale, namely horizontal and vertical integration. As result, a number of large pipeline and energy multinationals have entered the water field by adopting a tactic called “convergence”—the prospect of a single company carrying natural gas, water and electricity to millions of customers. For instance, the RWE group, Germany’s largest electricity producer, is also emerging as a major player in water services.

Nowadays a few MNCs provide an extensive range of public services in addition to water supply, including telecommunications, construction, energy, environmental services, health, housing, security and prisons and transport.³ According to Hall and Lobina (1999), it is not surprising to observe market concentration in the water industry since principal private operators in the global water industry have long acquired leadership through their ability to expand without

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² Both corporations are ranked among the 100 largest in the world by the Global Fortune 500.
³ In fact, twenty-six firms within the first two hundred Fortune 500 companies are public services MNCs.
facing real competition—rather than through their early establishment. Indeed, along with these tendencies in the industry, water pricing, project selection, and other related policies have been evolving to reflect this new perspective—and allocation and conflict-resolution mechanisms have been created, strengthened, or updated in dealing with private providers (Dinar, 2004). Indeed, well-known monopolistic tendencies in the water industry are enhanced by the fact that water is a less tradable resource than electricity, gas, railways, or telecommunications, given that unbundling is almost impossible. The particular character of water infrastructures—which make it different from the traditional industry sector—means that not only they are monopolistic in nature, but they also deliver vital goods to people, which means that the host governments generally tends to be more directly involved.

As we will discuss, MNCs bargain with governments for more or better inputs needed for business operations while governments deal with MNCs for contributing production or operational inputs that unavailable from local firms (e.g. planning, quality control, cost reductions). Indeed, it was in this context that bargaining models were proposed to explain relations between MNCs and host governments concerning terms of entry, operations, or exit, based on their respective strengths and weaknesses (Fagre and Wells, 1982; Kobrin, 1987; Gomes-Casseres, 1990; Uhlenbruck et al., 2006).

Generally, the greater the competition, the weaker the bargaining power of MNCs. If the developing country is forced to choose among a small number of multinationals—as in the case of the water industry—it seems that its ability to play one firm off against another will be limited. The MNC, realizing that it is one of the few firms able to offer a certain technology or bundle of resources to host nations, will demand and probably receive more favorable terms. Therefore, it is not surprising that the empirical evidence suggests that more concentrated and regulated industries are more politically active (Estey and Caves, 1983; Zardhooki, 1985).

3. Contractual entry mode as outcome of host government-MNCs bargaining on water projects.
Entry strategy is a critical element in MNCs international expansion. The mode of entry substantially determines a firm’s resource commitment, investment risk, degree of control, and share of profits from operational operations (Davis et al., 2000). The management literature has used several theoretical perspectives (e.g., monopolistic advantages, internationalization, transactions cost, strategic behavior and bargaining) and numerous firm-level (Davis et al., 2000; Delios and Beamish, 1999; Shrader, 2001) as well as country-level factors (Henisz and Delios, 2001) to explain the choice of entry mode. However, only a few studies have focused in network industries (e.g., Doh and Teegen, 2003; Doh et al., 2004). These latter have analyzed country, industry, firm and project factors that influence MNCs entry mode decisions—through the division of ownership shares—as the result of bargaining over different types of contractual arrangements in the telecommunications industry.

Bargaining-based competition inevitably remains at contract negotiation because MNCs and host governments do not share identical goals. However, it is important to keep these goals compatible; otherwise it is more likely to lead to conflict and ex-post opportunism (Buckley and Casson, 1988). According to bargaining models of MNCs-host government relations, actual entry conditions—and the negotiated outcome—depend on the bargaining power of the two sides, which in turn, depends on their respective resources and strengths (Luo, 2002; Grosse, 1996; Ramamurti, 2005). Indeed, Kobrin (1987) and Ramamurti (2001) have stressed the importance of differentiating potential power from actual power due to the fact that control over resources is not automatically translated into effective impact on outcomes. According to both authors, in the case of MNCs-host countries bargaining, actual power is a function of: 1) resources controlled by one party and demanded by other; 2) constraints that prevent potential power from being implemented; and 3) the ability of either party to limit the behavior of the other directly (economic or political coercion). Figure 1 depicts this approach by showing the two sides sources of bargaining power and the main elements of the resulting bargain on MNCs terms of entry and operations.

4 In fact, public organizations are typically multipurpose and their public policies often are quite vague, diffuse, contradictory, and even in conflict with each other (Levin and Sanger, 1994).
Bargaining power arising from the relative demand for resources comes from differences in capabilities, including the availability of substitutes and the amount of competition in the industry. It is a function of firm-specific assets (e.g. technology, capital) or ownership advantages and imperfect markets that allow the firm to exhibit advantages (e.g. worldwide size/scale); host country resources that are demanded by the firm (e.g. market size and granting access to home market), and the firm’s ability to substitute for those resources (e.g. international experience).
Politics-related constraints may limit the ability of a host country (or MNCs) to exploit bargaining power resulting from relative demand of resources. As host countries governments usually have different objectives relative to foreign investment, domestic political process (e.g. interest groups influence and corrupt practices) may affect the translation of potential power. Similarly, MNCs have strong incentives to influence host country government policies to safeguard their often-substantial investments, particularly given the threat of repatriation of earnings, immigration laws, trade laws and investment laws. For this reason, states can be the target of MNCs political activities (e.g. lobbying, personal relations) and managerial means (e.g. resource commitment) to manipulate deals or improve their relations aimed to obtain specific advantages and affect the entry outcome (Luo, 2002).

MNCs may –indirectly– be able to prevent outcomes desired by host countries through coercive power. The most obvious example are the “conditionalities” –such as FDI liberalization and privatization– that are attached to IMF and World Banks structural adjustment loans (Ramamurti, 2001; Henisz et al., 2004). In the 1990s, highly indebted developing countries were required to relax rules on foreign ownership, performance requirements, taxation of dividends or capital gains. Likewise, similar conditionalities were imposed on other borrowers, including transition economies (after the collapse of Communism), and the Asian economies (after the 1997 financial crisis).

According to previous studies on entry mode, the main elements of the deal emerging from MNC-host government negotiations include the MNCs local ownership, exports, value added locally, investment size, technology transfer, tax rates and exceptions, and employment of local nationals. Each of these variables has been discussed extensively in the literature and therefore does not require elaboration here. However, according to Luo (2002), there are two major problems with operationalization of the bargaining outcome on a macro, cross-national basis: the only issue-area for which outcomes can be estimated across a significant number of cases is ownership;⁵ and secondly, MNCs and host countries objectives are not observable directly.

⁵ Ownership is used as dependent variable in most of the existing cross-national studies of bargaining power (e.g. Gomes-Casseres, 1990; Fagre and Wells, 1982).
I address the first issue by recognizing that local ownership is only one of a number of issues that are subject to host country-MNCs bargaining, and its relative importance depends on specific circumstances. In some cases, local production requirements, operation and management activities, employment, or source of funding may be more important to the host country and the MNCs than who owns the equity. As explained in chapter one, private sector participation—and bargaining around service provision in network services—can be extended to consider a number of issues that are subject to bargaining; namely ownership, funding and control. Furthermore, I address the second issue by introducing some behavioral assumptions concerning host governments and MNCs. I do not attempt to model the entire process or capture all the nuances of the interaction over time—which would require longitudinal case studies. However, these assumptions will be of help to specify several hypotheses about how observed entry modes move in a direction desired by the party who holds a dominant bargaining position.

In chapter 1, we discussed how contractual arrangements in network industries can allow for a range of ownership, control and funding scenarios for the parties in a spectrum from minimum to maximum participation by private sector in service delivery (see Appendix 2). In practice, it is standard to differentiate three families of modes of governance. The first governance structure is characterized by the involvement of private operator acting as a manager and funder, while the water system remains publicly owned (i.e. management and lease contracts). The second family covers different forms of “franchising” (delegated management). Typically, this is a contractual arrangement in which the franchiser, (i.e. host government) delegates to a franchisee (i.e. a MNC) the responsibility of providing water (i.e. concession and building-own-transfer contracts). One last arrangement to be mentioned is privatization (divestiture), in which case a private operator fully owns, and operates all assets related to the provision of water.

In management contracts (5-10 years) the public sector passes management and operational control of an enterprise to the private sector for an agreed period. However, the public sector retains full ownership and the responsibility of capital expenditures and maintenance, while the private company only supplies the management and technical skills. Concessions are long-term
contracts (20-30 years) that grant the private firm the exclusive right to operate and maintain the entire system, as well as the responsibility for investment and system expansion. The role of the government in a concession is to maintain control over service provision through monitoring investment plans and their implementation, monitoring service quality and regulating tariffs that the company collects directly from customers. Divestitures last indefinitely since asset ownership, capital investment and commercial risk are entirely reallocated to the private sector.

According to the World Bank, private sector projects in the water sector in developing countries amounted to over $37 billion during the period 1990-2001 (World Bank, PPI Project Database). Concessions were the most popular types of contracts awarded (67% of total awarded contracts), followed by greenfield projects (Building–Operation–Transfer) (17%), divestitures (15%) and management contracts (1%).

In aiming to provide a characterization of previous contract types as the outcome of negotiation between MNCs and local governments, we provide a description of standard behavioral assumptions for both sectors. These are mainly drawn from literature related to international and public management. Next, these assumptions will be taken into account in order to derive several hypotheses concerning the effect of each source of bargaining power on observed contract choices.
3.1. Behavioral assumptions for MNCs and host governments.

Based on the findings of Lan and Rainey (1992); Ring and Perry (1985), and Boyne (2002) we identify several perspectives that largely influence the core categories in the management of public and private organizations: (a) purposes or goals, (b) accountability, (c) autonomy, (d) orientation to action, and (e) environment.

**Purposes and goals.** Public organizations are typically multipurpose. The public policies they are expected to make or administer will often be quite vague, diffuse, contradictory, and even in conflict with each other (Lan and Rainey, 1992; Levin and Sanger, 1994). It does not have to do with good or bad management but with the fact that what host governments do involves so many different aspects of organized society—which is not the case for most MNCs—that it would be inconsistent if these policies did not have such characteristics.

Not only are the mandates of governments normally quite vague and diffuse, they may not be known to many of the people who constitute the organizations designated to achieve them (Leeuw et al., 1994; Boyne, 2002). It is not unusual for host governments to have no goals at all, or to have goals that appear to be quite irrational (Abrahamsson, 1977). For this reason rational models—in which it is assumed that preferences are exogenous to the organization—have received criticisms when applied to public organizations (Pfeffer, 1997).

**Accountability.** In comparison with those who are in public office or who manage governmental and other political organizations, corporate managers possess relatively more freedom (Murray, 1975). Paying attention to stakeholders is, like many other aspects of corporate policy, a matter of management’s choice. For host governments, accountability to a quite diverse spectrum of citizens and organizations represents a requirement.

In all democratic systems, what the executive does is subject to review by legislatures that, in turn, are subject to continual scrutiny by outsiders prepared to intervene. The universal condition of public-sector organizations is that they are subject to constitutions, laws, administrative regulations, judicial decisions, executive orders, and so on. The actions of the officers in host
countries are constrained by external and internal rules (Ring and Perry, 1985). Comparable examples of accountability in MNCs are rare.

In addition, public sector organizations in host countries are easily influenced by organized outside interest groups, and therefore their leaders and managers, in different policy directions. The mass media (often the instruments of powerful interests in civil society) also often make quite explicit and sometimes contradictory demands on them.

Finally, public-sector organizations in democracies are subject to the influence of political parties. These parties have their own preference orderings of issues and their own sense of the public policies required to deal with them. Their agendas are essentially normative and rarely they are stated on grounds of efficiency or similar considerations (Gortner et al., 1987; Ring and Perry, 1985).

**Autonomy.** The condition of multiple accountability in public organizations implies that these are considerably less autonomous than private-sector organizations (Perry and Rainey, 1988; Boyne, 2002). Not only are the formal chains of command multiple and complex, but informal influences and pressures often limit managers freedom in these organizations. Although managers in MNCs are also not free to act exactly as they might prefer, their organizations (as long as they operate within the law) are, by large, more autonomous than public sector ones in host countries.

The first of two additional characteristics related to autonomy stress that not only the goals of public agencies in host countries may not only be dictated from the outside but also be dependent on other external bodies to achieve them. Central governments need regional or local governments. A single policy may require the coordination and collaboration of different governmental bodies, many of which are in competition or conflict with each other. The second characteristic, as noted earlier, is that successful goal achievement may in part also be responsibility of political parties and interest groups. Furthermore, governmental bodies or agencies often disagree about goals and policies. Evaluations on the performance of
organizations are commonly driven not by objective criteria (assuming they are available) but rather by political ideology and partisanship.

In the private sector, the corporate community has been subject to somewhat different evaluations in recent years, mainly because of the internationalization of the firm. When managers extend their operations abroad, they are required to appreciate the value, the necessity, and new environments for aspects that are not directly related to the market. In this sense, managers are increasingly required to make constant evaluations when gaps appear between MNCs policies and its actual performance.

**Orientation to Action.** In comparison to private sector initiatives, public sector organizations exhibit significant limitations since action tends to be reactive and neither proactive nor innovative (Lenway and Murtha, 1994). New ideas are typically viewed as threats to an unstable equilibrium between internal and external forces and, as a consequence, conservatism –not risk-taking– becomes the usual orientation to action.

Conservatism also is a resultant of the fact that public organizations are more deeply institutionalized than in the those in the private sector and consequently, this make public ones more resistant to change (Powell and DiMaggio, 1991; Lan and Rayney, 1992). However, this pattern does not mean that the bureaucrats who work in host countries organizations cannot control any activity or that change is impossible. It means that organizational change is extraordinarily difficult to undertake, given the magnitude of inertial forces (Kaufman, 1981).

**The Environment.** Because the environment of organizations in the public sphere is basically normative, the proposed policies are discussed and contested in every step of their implementation –both inside and outside government. For instance, after knowing about these aspects of their environment, managers of public agencies try to learn whether to pay more attention to the legislature or to the executive office (Kaufman, 1981; Lan and Rayney, 1992). Indeed, considerations of organizational efficiency –as quite often in the private sector– may be and often are irrelevant to decision-making and choice in the public sphere. Successful managers
in host countries are the ones who learn how to survive and/or help their policies survive in an environmental landscape subject to frequent and radical changes.

3.2. Effect of MNCs and governments sources of bargaining power on contract dimensions: some hypotheses.

The behavioral assumptions for MNCs and host governments described above –along with some particular characteristics of the water industry– are used to derive some hypotheses examining the balance of bargaining power, and thus the likely outcome. Previous work on entry mode decisions have analyzed firm-specific advantages –and associated bargaining power– as reflected in the amount of ownership in an equity vs. non-equity setting. In this study we extend previous analysis to the particular case of politically salient industries (e.g. telecommunications, energy, and water) where, according to previous chapter, it is suitable to disentangle two additional dimensions (i.e. funding and control) in explaining observed governance modes. A priori, it is not feasible to assume a linear relationship between entry mode and sources of bargaining power since I am interested in assessing differentiated effects of each source on isolated contract dimensions. That is, a particular source of bargaining power could potentially have simultaneous and opposite effects on control, funding and ownership dimensions.

Effect of MNCS sources of bargaining power

As mentioned before, the sources of MNC bargaining power can be derived from the theory of the MNC or foreign direct investment. Foreign investors possess advantages or firm-specific assets that market imperfections allow the MNCs to contain. Firm-specific advantages –relative to host country– discussed most in literature include: technology, worldwide size/scale, international experience and access to financial markets (Fagre and Wells, 1982; Kobrin, 1987; Vachani, 1995; Ramamurti, 2001).

Many writers have argued that the level of technology supplied by the foreign investor has a significant influence on the bargaining outcome.\(^6\) Compared to other network industries that

\(^6\) For example, in Vachani (1995) and Ramamurti (2001) the bargaining power of a developing country is likely to be weak when it is faced with a high technology firm. The more an industry is characterized by rapid innovation, the more difficult it is for a developing country to enter an industry with the help of a MNC.
have been restructured and opened to private sector participation in many developing countries, water technologies cannot be restructured along the lines of, for instance, the telecommunications and energy industries. We are not considering technology as a source of bargaining power because the water industry has not experienced major technological breakdowns or come close to exploiting economies of scale in management and operations as other utilities did before restructuring. Long-distance and open-access transmission is particularly problematic and costly for water (Beecher, 2000).

**Worldwide size/scale**

Lecraw (1984) and Ramamurti (2001) proposed MNCs overall size as a source of bargaining power, because larger MNCs would be more likely to have managerial and financial resources to invest in majority-owned subsidiaries (e.g. BOT and divestitures) –and also undertake long-drawn negotiations with host governments. Indeed, economics literature have suggested that developing-country governments may perceive greater value in operation of multinationals with labor-intensive investment, given governments objectives of conserving scarce capital and enhancing employment. Small local-public utilities cannot take advantages of the economies of scale to the extent that larger multinational utilities can. Small firms usually do not have access to specialized technicians that multinationals retain. Hence, MNCs that invest in labor-intensive projects may be viewed as making a concession that creates value for the host –which should enhance their bargaining power.

At the same time, developing-host countries have tended to view multinationals with suspicion, partly because of their size, which connotes power (Vernon, 1983; Vachani, 1995). MNCs with plans to install large-capacity subsidiaries are likely to be more visible, and easily targeted by interest groups like labor unions that often are reluctant to staff reductions in case of divestitures. The relatively immovable nature of fixed assets may make multinationals with larger subsidiaries more vulnerable to country pressure. Thus, investment size and capacity to be installed –working primarily through the political climate, is likely to reduce the proportion of foreign ownership retained.
Hypothesis 1a: MNCs worldwide capacity is positively associated with private control of assets used for water distribution service.

Hypothesis 1b: MNCs worldwide capacity is positively associated with private funding of assets used for water distribution service.

Hypothesis 1c: MNCs worldwide capacity is negatively associated with private ownership of assets used for water distribution service.

International experience

Previous experience in a host country is an intangible asset that can serve as an important factor for mitigating potential hazards associated with a given entry decision (Zhao et al., 2004). When firms make international investments, specific knowledge of the host country is gained from conducting international operations (Barkema et al., 1996). Firms with more experience in a host country have developed organizational capabilities suited to that country, and are able to make greater commitments to foreign investors (Hennart, 1991). This argument is supported by Hennart and Reddy (1997) who suggested that more internationalized experienced firms face fewer local knowledge disadvantages. Furthermore, Delios and Beamish (1999) found that the comparative utility of structuring a foreign investment as a partner, as opposed to wholly-owned subsidiary, decreased with greater levels of international experience because of foreign firms development of local knowledge. Finally, empirical research points to a positive relationship between the level of ownership and the level of host country experience (Li, 1995).

Firm size and global experience might facilitate wholly-owned ventures (Kogut and Singh, 1988). Prior business decisions in a foreign market (e.g. negotiation, contractual experience) may develop skills and knowledge that may increase the chance of entering through a greenfield –or divestiture– based entry. Similarly, entry is facilitated by knowledge of the institutional framework and contacts with local partners and government authorities (Gomes-Casseres, 1990; Hennart, 1991).
Owing to the particular nature of infrastructure investments, past experience in running these projects is a critical predictor of successful future arrangements. According to Gomes-Caseres (1990), international experience can enhance MNCs bargaining power at the time of entering the country, which would be reflected in a higher level of foreign funds. Thus, management and lease contracts may be preferred over concessions, greenfield projects and divestitures by firms which are inexperienced in developing capital intensive industries and hence that entries foreign labor force.

_Hypothesis 2a: The level of international experience is positively associated with private control of operation and management activities in water distribution service._

_Hypothesis 2b: The level of international experience is positively associated with private funding for the provision of water distribution service._

_Hypothesis 2c: The level of international experience is positively associated with private ownership of assets used for water distribution service._

**Support from multilateral financial institutions**

Literature on new institutional theory has recently focused on the role of influential international organizations as the source of pressures for homogeneity in the interaction among countries. For instance, Vreeland (2003) and Henisz _et al._ (2004) have analyzed how international institutions like the World Bank and the International Monetary Fund are able to exert influence on the kind of policy adopted by governments and interest groups in developing countries. Indeed, the concept “coercive isomorphism” is referred as the fact that domestic groups that decide on policy have no other option than adopt “suggested” guidelines about market-oriented reform. The World Banks support practices often involves offering of funds conditional on the implementation of a reform or policy change that requires the water sector to be opened to the international business community. This has the effect of moving decision-making to the international level, where the influence of multinational companies is at least as strong as it is on national governments (Hall and Lobina, 1999). Similarly, Putnam (1993) discuss how fund
Conditionality may alter—in favor of larger private sector participation—the balance of power in the bargaining outcome between multinational and states.

The World Bank annual lending approvals for water averaged $1.1 billion in 1999–2001, slightly down from ($1.25 billion) in 1990–98 but with great year-to-year variation (The World Bank, 2005). Multilateral financial institutions are important funders of water, through their grants, loans and guarantees. Lending to water implies in some cases lending to sub-sovereign—local—entities that cannot avail themselves of a government guarantee. Similarly, risk associated to limited commitment of central governments can be mitigated by providing securities and/or by insurance and guarantee instruments (e.g. coverage against breach of contract in concession agreements, transfer restrictions, political instability and violence) offered by multilateral financial institutions and other agencies, however this applies only to cross-border investors.

Although World Banks partial risk guarantees cover lenders in the case of a default on contractual obligations to a project company, the difficulty here results not from the absence of appropriate coverage schemes for these risks, but from the fact that the responsible bodies frequently adopt a very restrictive interpretation of their mandates and instruments (Camdessus, 2003). For instance, the IFC—a division of the World Bank—invests solely in private sector ventures and is normally involved as a shareholder in private firms. Similarly, another section of the World Bank, MIGA, provides investment guarantees to protect private sector mainly against political risk.

Hypothesis 3a: The extent of financial support from international development institutions to infrastructure projects in developing countries is positively associated with private control of operation and management activities in water distribution service.

Hypothesis 3b: The extent of financial support from international development institutions to infrastructure projects in developing countries is positively associated with private funding for provision of water distribution service.
Hypothesis 3c: The extent of financial support from international development institutions to infrastructure projects in developing countries is positively associated with private ownership of assets used for water distribution service.

Effect of host government sources of bargaining power

Low level of interest group competition

Managers of public firms operate in a complex political environment where several government agencies (e.g. legislature, ministries) act as principals, either simultaneously or at different points in time. In other words, whereas investors are interested in maximizing returns, governments have more complex preferences shaped by multiple interest group pressures (e.g. labor unions and local businesses) that attempt to influence political actors seeking to retain office (Lau et al., 1991; Grosse and Behrman, 1992).

In the water industry the political strength of constituencies with intensive demand for infrastructure may influence government policies and the incidence of reform. One of these constituencies is domestic agriculture, which consume a disproportionately large quantity of water infrastructure services –around 80.6% in non-OECD countries– and pay relatively low rates and receive politically motivated cross-subsidies that MNCs –in case of private ownership– are not willing to maintain (Finger, 2001). In facing higher costs, domestic agricultural and urban residential customers may exploit their respective organizational or political advantages to exert pressure on political actors for market-oriented infrastructure reform. For instance, domestic agricultural consumers organizational advantages may follow from their relative concentration as a group and their possible pre-existing affiliation to trade groups. Similarly, urban residential consumers derive their political influence from a different source, namely, their ability to support reform of infrastructure services through peaceful or violent protests (Dinar, 2004). When resource degradation, fiscal crisis, and natural disasters enhance conviction for radical reform or liberalization of the sector, politically dominant groups may favor the status quo, however crisis weakens their bargaining power and strengthens new ideas and policies (Oliver, 1991). Indeed, host governments and MNCs can choose and design contracts to minimize political opposition and counter special interest groups –which usually involves coalition building. For instance, the
popularity of concessions −private control and funding− is explained by the fact that they allow a relatively easy handling of constitutional, legal or political constraints on private sector participation (Estache, 2004). With concessions, host governments could argue that they were not selling the assets of the country and hence bypass legal and constitutional constraints and reduce reforms by anti-privatizations segments of civil society.

Another part of the theoretical literature stresses that public ownership is associated with a lack of economic orientation in government’s objectives. For instance, in Hart et al. (1997), Debande and Friebel (2003), governments are described as adopting “paternalistic” or political behavior as they seek to protect or increase employment −which in the context of water industry it is often reflected in avoiding divestitures −private ownership− for service provision (Lobina, 2001). It is not surprising that the empirical evidence suggests that more concentrated and regulated industries −like water− are more politically active (Estey and Caves, 1983; Zardhooki, 1985). In addition, large firms engage in firm-specific political strategy more frequently than small firms do because they are more able to bear large fixed cost and fund infrastructure projects (Schuler, 1996). Therefore lobbying is the central component of most political strategies −which can be as important as business strategy and is often required to complement it (Baron, 2001).

*Hypothesis 4a: The level of interest group competition in developing countries is positively associated with private control of operation and management activities in water distribution service.*

*Hypothesis 4b: The level of interest group competition in developing countries is positively associated with private funding from MNCs for provision of water distribution service.*

*Hypothesis 4c: The level of interest group competition in developing countries is negatively associated with private ownership of assets used for water distribution service.*
Low level of corruption

Most scholars view corruption as occurring at the interface between the public and private sectors where a public official has discretionary power over access to, or the distribution of, resources to the private sector (e.g. Rose-Ackerman, 1999).

Corruption –the abuse of public power for private benefit– often rewards unproductive behavior by channeling unmerited contracts and rights to firms in exchange for bribes –therefore penalizing efficient firms.7 It is particularly widespread in transition and less-developed economies (Hellman et al., 2000). Indeed, the challenges firms –especially MNCs– face in entering foreign countries largely reflect their efforts to understand and adapt to local corruption and the uncertainty associated with corrupt transactions.

As in other industries, the water industry is prone to corruption and it can be a relevant factor whether the sector is privately or publicly operated. The willingness of companies, or pressure on them, to make bribes or other favors in order to win business has undesirable effects, raising the cost of the deal and increasing its debt burden (Shleifer and Vishny, 1994).8 However, government is not the only actor that may behave in an opportunistic way. For instance, after a concession has been granted and the tender competitors are no longer bidding MNCs may take actions that “hold up” the government, through bribing politicians/regulatory agencies, or by insisting on renegotiating the regulatory contract ex post.9

According to Lobina (2001), bribes are offered at the points in the process where there is

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7 The economic function of a bribe is to provide a financial inducement for an official/politician/public authority to act in the interests of the company rather than the public interest which he/she/it is supposed to represent. Illegal payments are only one category of such inducements, (and illegal payments for which a company has been convicted are an even narrower sample).

8 A major case occurred in Lesotho, where the former Chief Executive of the Lesotho Highlands Water Authority was found guilty on 11 counts of bribery for accepting some US$5 million in bribes from a dozen multinational firms in return for contracts worth hundreds of millions of dollars (McGreal, 2002). The scheme itself has been identified as an unnecessarily expensive way of supplying Johannesburg with water.

9 According to Guasch et al. (2003), the incidence of contract renegotiation in Latin American countries water sector is relatively high —compared to telecommunications, energy and transport— these processes usually involves changes in contractual provisions that in most cases do not affect the initial choice of contract type.
economic gain for the company in doing so. In private water business, the key point is the award of the contract that usually results in a monopoly for up to 30 years or longer. Since it is both potentially valuable and a unique opportunity to gain, the process leading up to awards thus represents a crucial opportunity for using bribes.

A growing body of research finds that corruption has been shown to significantly diminish foreign direct investment into an economy even when controlling for political risk, cultural distance, and level of corruption differences between the home and host countries (Rodriguez et al. 2005). Clearly, corruption deters aggregate entry, but many MNCs choose to enter despite it is present substantially in many of the largest world markets (Transparency International, 2001).

We expect public ownership (i.e. non-equity entry through management contracts, leasing, and concessions in our sample) to become especially attractive where corruption is significant—as existing local firms will not necessarily require the same government approvals and permits as a new entrant. Moreover, non-equity modes of entry reduce barriers to exit (Doh et al., 2004). For instance, the duration of management and concession contracts is typically limited, and so interactions with potentially corrupt government agencies are more easily anticipated (Pan and Tse, 2000). Accordingly, public ownership may significantly decrease the pressures to engage in corruption in the host country relative to equity entry—which require local registration, permits, and various other government services, all involving opportunities for extortion (Uhlenbruck, 2006). By the same token, some research suggests that the most pronounced effects of corruption stem from the uncertainty surrounding corrupt transactions rather than from their monetary cost and frequency (Shleifer and Vishny, 1993; Rodriguez et al., 2005). Therefore we expect that private operation and management activities (i.e. private control) to be less exposed to the effect of corrupt environments—compared with those involving private funding and ownership.

Hypothesis 5a: The level of political risk and corruption in developing countries is positively associated with private control of operation and management activities in water distribution service.
Hypothesis 5b: The level of political risk and corruption in developing countries is negatively associated with private funding from MNCs for provision of water distribution service.

Hypothesis 5c: The level of political risk and corruption in developing countries is negatively associated with private ownership of assets used for water distribution service.

Low opportunity cost of public funds

The cost of capital is the same in the public and private sectors in the absence of tax distortions and with complete capital markets. Taxpayers bear the residual risk of government investment – particularly those related to the obligations to debt holders – in much the same way as the shareholders of a private-sector firm (Brealey et al., 1997).

According to Klein (2003), it is not clear whether governments have discount rates that are systematically different from those of private investors. One reason why they might be systematically different is that private entrepreneurs may be protected by limited liability provisions, which limit the feasible set of risk diversification and incentive schemes. Governments, on the other hand, can to some degree circumvent this constraint by imposing and adjusting taxes. In addition, the costs and benefits of a firm’s investment decisions are shared proportionately by the firm’s shareholders, who are therefore united in their objectives. Such proportional sharing is generally not true of public-sector investments. For example, the benefits of a new sewerage system or pipeline will be enjoyed primarily by a small segment of the population, whereas the resulting tax burden will be borne by all taxpayers.

One of most important governments objectives in negotiating with MNCs is concerned with the need to deliver improvements in services while holding or reducing costs. The constant pressure on public finances, particularly on capital expenditure budgets, is the most consistent feature (World Water Vision, 2000).\(^{10}\) Water projects are among the most capital-intensive of

\(^{10}\) The World Commission on Water has estimated that to meet all water supply and sanitation, irrigation, industrial and environmental management demands, investments in water infrastructure need to increase from the 2000 level
infrastructure investment.\textsuperscript{11} Therefore, most water infrastructure projects do not cover their full costs —operation, maintenance and capital items— and rely on public subsidies (Finger, 2001). Moreover, regulatory agencies are often reluctant to raise tariffs, even to cover operation and management expenses, despite the possibility of designing tariff structures that favor the water bills of the poorest and the use of the social security budget to subsidize deserving cases.

In the political debate arguments are usually related to recurrent deficits and constant pressure on public finances to justify private firms participation. According to (Grimshaw et al., 2002) it is a politically attractive argument. In addition, Spackman (2002) provides two more persuasive arguments for private financing. First, the monitoring pressures that MNCs face from private financiers may be stronger than those from the public sector clients under conventional contracts. Second, a more persuasive case for private financing is that it ties private contractor into a long-term commitment. That is, without capital at risk a private provider can abandon the project if the cash flow is insufficient. Although, in principle, contractual provisions can prevent these cases, in practice it is difficult or impossible to design and enforce comprehensive penalty clauses over long periods.

From a different perspective, Rodrik (1998) analyzed the risk-reducing role of states in economies exposed to significant amount of external risk or lacking capabilities to attract investments. In particular, his study predicts that the higher the level of government expenditure the higher the opportunity cost of financing new infrastructure projects and —other things equal— we should observe greater degree of private funding.

of $75 billion to $180 billion a year. It will demand well-targeted subsidized public investments.

\textsuperscript{11} For instance, in the United States the ratio of capital investment to revenues is twice as high in water as in natural gas, and 70% higher than in electricity and telecommunications. The assets created are typically unusable for any other purpose and cannot be removed, so the investor depends totally on future revenue to obtain the desired return.
Hypothesis 6a: The opportunity cost of public funds in developing countries is positively associated with MNCs control of operation and management activities in water distribution service.

Hypothesis 6b: The opportunity cost of public funds in developing countries is positively associated with private funding from MNCs for provision of water distribution service.

Hypothesis 6c: The opportunity cost of public funds in developing countries is positively associated with MNCs ownership of assets used for water distribution service.

Regulatory Commitment

According to Bergara, Henisz, and Spiller (1998) the likelihood that a government will meet its promises varies with the institutional environment. Where multiple independent actors wield veto power over potential policy changes, macroeconomic, tax, and regulatory stability will be enhanced –thus reducing the variance on an investment projects expected return. This relationship holds for an industry like water, which is usually considered as a “politically salient” industry due to its economic, political, historical, and cultural attributes that create a widespread public interest in its operation and outcomes (Saleth and Dinar, 1999). In particular, the combination of large sunk costs and long payback periods creates the potential for conflict between investors and political actors, since the latter may face ex post incentive to overturn a bargain or to alter or reinterpret its terms in response to constituent pressures. Where these drawbacks become sufficiently severe, direct provision of services using government-owned assets is likely to be the bargaining outcome at the outset of the project.

Political risk arises when there is a likelihood of politicians intervening to override the terms of agreed contracts, or to exploit ambiguities of contractual clauses in them –that later on they

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12 This problem is analogous to the well-known “time consistency” problem in the governments choice of capital taxation: in order to induce investment, the government may commit to charge low rates to investors, but such commitment is not credible because the government has an incentive to redistribute investor returns once investors sink capital in the ground (Kydland and Prescott, 1977).
expect to be exploited in their favor during a reelection campaign, or by the new administration deciding not to honor previous decisions (Guasch et al., 2003). Therefore, independence of regulators and arbitration authorities is important in providing the commitment which governments are unable to offer. Regulation is a necessary part of monitoring water agencies and making their behavior accountable to the public. Although regulation is usually seen as a precondition of private sector involvement, it has also an essential role in the public sector too — as long as an agency is accountable for its performance. Unfortunately, in practice there are very few examples of good, experienced regulators in the water sector in developing countries (Guasch et al., 2003). Most are recent, weak and subject to government interference — either because of decisions on how to cope with the impact of macroeconomic events on major MNCs contracts, or by the degree of opposition and fractionalization of countries legislative chambers (Beck et al., 1999).

Where there is no confidence on government’s commitment and regulation is absent or weak, neither companies nor the general public has confidence in the contracting processes — and investment suffers because of institutional risk. Indeed, existing literature on ownership is related to government capabilities to commit to a transparent and stable regulatory framework (Shleifer and Vishny, 1994; Boyko et al., 1996). It stresses that the incompleteness of contracts is one of the main reasons for the existence of state ownership — given deficiencies in government ability to commit to regulatory policies. Such deficiencies can discourage private investment — given the high risk of opportunistic changes in regulations — and necessitate direct government involvement in production as a substitute (Weingast, 1995).

According to Hart (2003), incomplete contracting between host states and private firms over goods and services can give rise to public ownership the same way it leads to vertical integration in the private sector. When there is a possibility of holdup or when some characteristic of a service cannot be specified ex ante, potential conflicts may be avoided and incentives may be better aligned if the government takes direct control of the activities of the supplying firms.13 Similarly, factors that make it more difficult for politicians to convince private investors that

13 Hart, Shleifer, and Vishny (1997) and Rajan and Zingales (1998) develop this idea and examine a variety of examples from schools and prisons to armies and foreign service, where the issue can play important roles.
they can refrain from manipulating the tax and regulatory policies (e.g. electoral competitiveness) are expected to decrease the degree of private participation through funding.

*Hypothesis 7a:* Limited commitment of developing countries government to clear, stable and consistent regulatory rules is negatively associated with private control of operation and management activities in water distribution service.

*Hypothesis 7b:* Limited commitment of developing countries government to clear, stable and consistent regulatory rules is negatively associated with private funding from MNCs for provision of water distribution service.

*Hypothesis 7c:* Limited commitment of developing countries government to clear, stable and consistent regulatory rules is negatively associated with private ownership of assets used for water distribution service.

As mentioned before, negotiated outcomes depend on goal congruence and resources that each side brings to the table. It is hypothesized that overall balance of MNCs and host countries bargaining power – and its effect on ownership, funding, and control dimensions – will determine observed entry modes. According to Luo (2001), once an entry mode is chosen, the interactions between host country institutional environment and the mode will be largely exogenous, meaning that it will not be economically feasible to switch entry modes once a MNC has already entered the target market.

4. Observed entry modes and model setting.

4.1. Data and description of variables.

Regarding observed entry modes, we gathered data about MNCs projects from World Banks Private Participation in Infrastructure (PPI). In particular, we obtained data on five different contractual entry modes in the water industry related to more than 40 developing countries for the period 1990-2004 (see table 1 below).
Table 1. Whole sample of water distribution projects in developing countries

<table>
<thead>
<tr>
<th></th>
<th>Whole</th>
<th>Latin America</th>
<th>Africa</th>
<th>Asia</th>
<th>Eastern Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign investor</td>
<td>274</td>
<td>75</td>
<td>27</td>
<td>127</td>
<td>45</td>
</tr>
<tr>
<td>Domestic investor</td>
<td>151</td>
<td>59</td>
<td>1</td>
<td>89</td>
<td>2</td>
</tr>
<tr>
<td>International/Total</td>
<td>64%</td>
<td>55%</td>
<td>96%</td>
<td>70%</td>
<td>96%</td>
</tr>
</tbody>
</table>

A brief review of the data reveals that most of the private sector participated projects are undertaken in Asia, followed by Latin America and the Caribbean, Eastern Europe, and Africa remain behind with about 16 percent of total number of water projects. The fact that some regions attract more private-participated water projects than others can be explained partly by the fact that countries in Latin America and East Asia liberalized their economies earlier in the 1990s. Moreover, the breakdown of socialism in Eastern Europe and Central Asia led not only to a complete reorganization of political and economic structures but also to a collapse of socialist infrastructures. This factors, coupled with the bankruptcy of the public sector, costly social transfer programs, and resulting high debts, may have forced governments to privatize or engage in private participated projects (The World Bank, 2005).

In addition, gathered data reveals that investment flows in water projects increased over time to reach a peak in 1997 of more than US$100 billion. Investment flows decreased after 1997, to about US$55 billion in 2003, about the same level as in 1995–96. Interestingly, this pattern is similar to that of total private capital investment flows, which also peaked at about US$275 billion in 1997 and declined thereafter. This suggests that MNCs infrastructure projects, like private capital investment flows, may react to global shocks such as the Asian, Russian, Turkish, and Argentinean crises.

MNCs projects in network industries are traditionally more numerous in energy (1,116 projects in the PPI database) and transportation (735 projects), followed by the telecommunications (600 projects) and water (425 projects). The most common mode of entry into the energy and telecommunication sectors is through greenfield investments, while the most common mode of entry in transportation and water sectors is through concessions. As discussed previously, water sectors lack of competition and politically salient characteristics makes it an industry suitable to
analyze in terms of bargaining outcomes. Table 2 shows the decomposition of the whole sample by contract type:

<table>
<thead>
<tr>
<th>Contract type</th>
<th>Number of observations</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management contract</td>
<td>37</td>
<td>14</td>
</tr>
<tr>
<td>Leasing contract</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Concession of existing network</td>
<td>101</td>
<td>37</td>
</tr>
<tr>
<td>Greenfield project (build, operate, transfer)</td>
<td>83</td>
<td>30</td>
</tr>
<tr>
<td>Divestiture</td>
<td>41</td>
<td>15</td>
</tr>
</tbody>
</table>

Since we analyze entry modes as the outcome of negotiation between MNCs and host governments, we consider exclusively water distribution projects where there exist investments coming from foreign investors. This is to isolate projects where local companies are involved as private investors and observed contract choices can actually be interpreted as joint MNCs-host government’s decisions. Thus, from the whole dataset concerning water distribution contract types (425 projects) we have selected those with foreign investment participation (274 projects).

4.2. Independent variables.

In aiming to operationalize sources of bargaining power associated to MNCs and host countries I collected and assembled large amounts of data coming from different sources. Next, I provide a description of them.

*Worldwide scale* – as a source of bargaining power – is operationalized through the physical capacity of the entering firm’s water system in the geographical region where the project is located (i.e. Latin America, Africa, Asia, or Eastern Europe). As in Dinar (2004), it is measured in thousands of cubic meters and tries to capture the level capital-intensive resources of MNCs. It is reported in the World Bank’s “*Private Participation in Infrastructure*”
International experience refers to the experience and knowledge gained in host country projects. This variable is constructed through the Public Services Research Units database for the period 1990-2004. It counts the number of water distribution projects the entering MNC (in most cases Suez and Veolia) has previously undertaken in the geographical region associated to the project (i.e. Latin America, Africa, Asia, or Eastern Europe). Therefore, it is intended to capture whether MNCs can make better strategic decisions and develop experience and capabilities to operate independently in a host country (Zhao et al., 2004). This proxy, however, does not provide any information concerning success in previous entries. Moreover, although the World Banks PPI database contains an indicator of the number of cancelled projects, it does not provide the date or reasons for such cancellations. While such information may be gathered for individual projects, it is not available on a wide cross-sectional basis.

Support from International Finance Institutions is defined as the amount of funding from multilateral financial institutions in the form of grants, loans and guarantees (in US millions) to projects with private participation during the period 1990-2004. It is reported periodically in the World Banks PPI database.

Level of interest group competition refers to the number and political strength of constituencies with intensive demand for infrastructure –which may influence government policies and the incidence of reform. In the case of water industry, one of these constituencies is domestic agriculture, which consumes a disproportionately large quantity of water infrastructure services, pay relatively low rates, and receive politically motivated cross-subsidies (Dinar, 2004).

This variable is measured through the proportion of water used in agriculture relative to total use. Hence, the greater the proportion the greater will be the influence and level of competition with other end-users (e.g. industrial and urban domestic) regarding access to water resources (Saleth and Dinar, 1999). The variable “Water Use Intensity” belongs to a database published by Water Resources and Freshwater Ecosystems (www.wri.org). It is a joint publication by United Nations
Environment Program, the United Nations Development Program, the World Bank, and the World Resources Institute.

*Corruption* is measured through an index developed by *Transparency International* ([www.transparency.org](http://www.transparency.org)). It indicates the degree of public sector corruption as perceived by business people and country analysts, and ranges between 0 (highly clean) and 10 (highly corrupt). This index is computed through a factor analysis from different data sources: Freedom House, Nations in Transit, the Economist Intelligence Unit, the Institute for Management Development at Lausanne, the International Crime Victim Survey, Political Risk Services, the Political and Economic Risk Consultancy at Hong Kong, the World Bank, and European Bank for Reconstruction and Development.

*Opportunity Cost of Public Funds* is measured as the amount of public expenditure (in US millions) as percentage of GDP. It represents a proxy for public sector's ability to finance and participate in water infrastructure projects. This dataset was obtained from “World Development Indicators” published by the World Bank for the period 1990-2004.

*Commitment* is operationalized through a “political constraints” index developed in Henisz (2002) and updated in 2005 ([www.management.wharton.upenn.edu/henisz](http://www.management.wharton.upenn.edu/henisz)). Possible scores for the final measure of political constraints range from zero (most hazardous countries) to one (most constrained and committed to maintain current policy). Non-democratic countries and those with transitional political regimes have the lowest levels of political constraints because the formal institutional structures in these states provide greater discretion to policymakers.

The construction of this measure is based on the identification of the number of independent branches of government (executive, lower and upper legislature chambers, judiciary and sub-federal institutions) and the use of a simple spatial model of political interaction to derive the extent to which any one political actor or the replacement for any one actor—e.g., the executive or a chamber of the legislature—is constrained in his or her choice of future policies (Henisz, 2002).
In addition to variables related to MNCs and host countries sources of bargaining power, we also take into account two control variables, namely population density and access to water infrastructure.

Population density –computed as the number of inhabitants per squared kilometer– is included as it has been argued that countries with large, rapidly growing markets should enjoy higher bargaining power with MNCs (Gomes-Casseres, 1990). In addition, for the first time in history, more people are living in cities and towns than in rural areas. During the past three decades, the urban population of developing countries has tripled and, by the year 2000, some 2.2 billion people lived in the urban centers of Asia, Africa, and Latin America alone, approximately one-half in cities of one million or more inhabitants. More than simply a demographic phenomenon, the rapid concentration of hundreds of millions of people in urban areas throughout the developing world is one of the most significant processes affecting developing countries.

Access to water infrastructure measures the degree of coverage through the percentage of population with water service. The World Health Organization estimates that 25 to 30 percent of urban residents in Latin America, Africa, and the Middle East lack access to potable water, and that more than one third in Asia are not serviced. Therefore, urbanization has placed a challenge for both, national and local governments, to meet their basic citizens needs. This variable serves as a proxy for the level of existing infrastructure associated to local–host country– utilities and it is reported in “World Development Indicators” published by the World Bank for the period 1990-2004.

Table 3 below provides a brief description of the variables, the level of measurement, the scale, and data secondary sources. Empirical analysis of the impact of sources of bargaining power on entry outcomes may raise the problem of endogeneity (Brouthers, 2003). For instance, entry mode could be driving either worldwide scale or international experience in the country where the entry takes place. To address this issue, we choose consider independent variables that are sufficiently general (e.g. lagged values of total capacity and number of international projects previously undertaken by the entering MNC, and aggregated institutional variables like corruption, overall expenditure as percentage of GDP and host governments political constraints)
so that these are not affected by entry choices in the water sector. Statistical tests regarding correlations and overall significance are provided in Appendix 2.

As a preliminary step, we explore the particular effect of each source of bargaining power by computing their means across entry modes (table 4). The results show significant differences that were confirmed through a joint test of the null hypothesis that, for a given contract type, all variables means are the same versus the alternative that not all the means are equal. Except for international experience and interest group competition variables, all test were rejected (see table 8 in Appendix 2).

Table 3. Description of data

<table>
<thead>
<tr>
<th>Source of bargaining power</th>
<th>Measure</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worldwide scale</td>
<td>Logarithm of physical capacity (thousands of cubic meters) of MNCs distribution system in the geographical region where the project takes place</td>
<td>Public Services Research Units database (1990-2004); World Banks PPI database, (1990-2004).</td>
</tr>
<tr>
<td>International experience</td>
<td>Number of projects undertaken in previous years by the entering MNC (in most cases Suez and Veolia) in the geographical region where the entry takes place</td>
<td>Public Services Research Units database (1990-2004); World Banks PPI database, (1990-2004).</td>
</tr>
<tr>
<td>Support from multinational financial institutions</td>
<td>Logarithm of the amount of support (US millions) from development banks</td>
<td>World Banks PPI database, (1990-2004).</td>
</tr>
<tr>
<td>Interest group competition</td>
<td>Proportion of water used in agriculture relative to total use</td>
<td>Water Resource Institute (reports from 1990 to 2004).</td>
</tr>
<tr>
<td>Opportunity cost of public funds</td>
<td>Current government expenditure as share of GDP</td>
<td>World Development Indicators (World Bank; 1990-2004).</td>
</tr>
<tr>
<td>Commitment</td>
<td>Political constraints index, which measures the degree of formal constraints on executive discretion</td>
<td>Henisz (2002) and POLCON database updated in 2005</td>
</tr>
<tr>
<td>Density</td>
<td>Logarithm of the number of inhabitants per square kilometer</td>
<td>World Development Indicators (World Bank, 2003).</td>
</tr>
<tr>
<td>Access</td>
<td>Percentage of population with access to water service.</td>
<td>International Water Agency (Reports from 1990 to 2004).</td>
</tr>
</tbody>
</table>
Table 4. Comparison of explanatory variable means by contract type

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Management</th>
<th>Leasing</th>
<th>Concessions</th>
<th>Greenfield projects</th>
<th>Divestitures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worldwide scale</td>
<td>7.57</td>
<td>3.45</td>
<td>9.369</td>
<td>8.837</td>
<td>14.300</td>
</tr>
<tr>
<td>International experience</td>
<td>2.263</td>
<td>2.759</td>
<td>4.227</td>
<td>4.236</td>
<td>2.431</td>
</tr>
<tr>
<td>Support from multinational financial institutions</td>
<td>4.15</td>
<td>5.838</td>
<td>29.34</td>
<td>21.469</td>
<td>34.828</td>
</tr>
<tr>
<td>Interest group competition</td>
<td>68.562</td>
<td>57.391</td>
<td>60.978</td>
<td>54.882</td>
<td>61.193</td>
</tr>
<tr>
<td>Corruption</td>
<td>2.375</td>
<td>1.453</td>
<td>3.644</td>
<td>3.543</td>
<td>4.344</td>
</tr>
<tr>
<td>Opportunity cost of public funds</td>
<td>16.194</td>
<td>17.646</td>
<td>20.897</td>
<td>20.039</td>
<td>55.671</td>
</tr>
<tr>
<td>Commitment</td>
<td>0.442</td>
<td>0.373</td>
<td>0.232</td>
<td>0.251</td>
<td>0.170</td>
</tr>
<tr>
<td>Density</td>
<td>9.926</td>
<td>8.709</td>
<td>19.253</td>
<td>17.682</td>
<td>11.087</td>
</tr>
<tr>
<td>Access</td>
<td>38.887</td>
<td>27.564</td>
<td>39.837</td>
<td>21.823</td>
<td>68.679</td>
</tr>
</tbody>
</table>

Management contracts are associated with countries exhibiting relatively low levels of corruption and greater degree of commitment. Concessions and greenfield projects are characterized by exhibiting larger mean values related to international experience, more support from multilateral financial institutions, and higher population density. Divestitures are associated with countries relatively showing higher levels of corruption, higher opportunity cost of public funds, lower degree of commitment, and higher level of access to water infrastructure.

4.3. The model.

According to previous chapter on hybrid public-private governance, contractual entry modes can be grouped into three modes of governance structure (see table 5 below). Management and leasing contracts form a governance structure characterized by service provision (control) in MNCs hands, whereas host government is in charge of capital investment (funding) and owns water distribution system. Similarly, the second governance structure is formed by concession and greenfield project entry modes. These contract types are associated with MNCs control and funding and host government ownership. In the particular case of greenfield projects we associate their ownership dimension to host countries responsibility due to the fact that assets are in MNCs hands during a limited period of time—in building and operation stages. Finally, we characterize divestitures as a third governance structure by itself—where control, funding, and control are in MNCs side.
Table 5. Observed contractual entry modes in the water industry

<table>
<thead>
<tr>
<th>Types</th>
<th>Control</th>
<th>Funding</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Operations and</td>
<td>Capital</td>
<td>Asset Ownership</td>
</tr>
<tr>
<td></td>
<td>Maintenance</td>
<td>Investment</td>
<td></td>
</tr>
<tr>
<td>Management Contract</td>
<td>Private</td>
<td>Public</td>
<td>Public</td>
</tr>
<tr>
<td>Leasing Contract</td>
<td>Private</td>
<td>Public</td>
<td>Public</td>
</tr>
<tr>
<td>Concession of existing network</td>
<td>Private</td>
<td>Private</td>
<td>Public</td>
</tr>
<tr>
<td>Greenfield project (Build, Operate, Transfer)</td>
<td>Private</td>
<td>Private</td>
<td>Private then Public</td>
</tr>
<tr>
<td>Divestiture (Privatization)</td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
</tr>
</tbody>
</table>

Observed contractual outcomes can be mapped by defining three dichotomous dependent variables as follows:

\[
y_1 = \begin{cases} 
1 & \text{if operation and maintenance (control) in project } i \text{ is in charge of MNCs} \\
0 & \text{otherwise}
\end{cases}
\]

\[
y_2 = \begin{cases} 
1 & \text{if capital investment (funding) in project } i \text{ is in charge of MNCs} \\
0 & \text{otherwise}
\end{cases}
\]

\[
y_3 = \begin{cases} 
1 & \text{if water distribution system (ownership) in project } i \text{ belongs to MNCs} \\
0 & \text{otherwise}
\end{cases}
\]

Management and leasing contracts are operationalized through a dependent variable of the form (1,0,0); similarly, concession and greenfield projects through a vector (1,1,0), and divestitures are denoted by (1,1,1).

As observed from table 5, for a given project, private ownership is not observed unless there exists private funding; and private funding is not observed unless there exists private control. Moreover, according to the stated hypotheses, entry outcome depends on the overall balance of MNCs and host countries sources of bargaining power in such a way it is not feasible to assume a linear –unidirectional– relationship between them (see table 6 below).
Table 6. Hypotheses and expected signs of sources of bargaining power on contract dimensions

<table>
<thead>
<tr>
<th>Sources of bargaining power</th>
<th>Contract dimension</th>
<th>Private Control</th>
<th>Private Funding</th>
<th>Private Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>MNCs Worldwide scale</td>
<td>+ (H1a)</td>
<td>+ (H1b)</td>
<td>− (H1c)</td>
<td></td>
</tr>
<tr>
<td>MNCs International experience</td>
<td>+ (H2a)</td>
<td>+ (H2b)</td>
<td>+ (H2c)</td>
<td></td>
</tr>
<tr>
<td>MNCs Support from mult. fin. inst.</td>
<td>+ (H3a)</td>
<td>+ (H3b)</td>
<td>+ (H3c)</td>
<td></td>
</tr>
<tr>
<td>Host countries Interest group competition</td>
<td>+ (H4a)</td>
<td>+ (H4b)</td>
<td>− (H4c)</td>
<td></td>
</tr>
<tr>
<td>Host countries Corruption</td>
<td>+ (H5a)</td>
<td>− (H5b)</td>
<td>− (H5c)</td>
<td></td>
</tr>
<tr>
<td>Host countries Opp. cost of public funds</td>
<td>+ (H6a)</td>
<td>+ (H6b)</td>
<td>+ (H6c)</td>
<td></td>
</tr>
<tr>
<td>Host countries Regulatory commitment</td>
<td>− (H7a)</td>
<td>− (H7b)</td>
<td>− (H7c)</td>
<td></td>
</tr>
</tbody>
</table>

Since higher MNCs bargaining power is not necessarily translated into more likelihood of observing greater extent of private control, funding and ownership, we do not assume any particular order concerning degree of private involvement –and contract types. Otherwise we could propose an ordered multinomial logit model with a positive –unidirectional– relationship between MNCs bargaining power and private participation. Indeed, as stated in the previous hypotheses, we are interested in capturing disaggregated effects of different sources of bargaining power across contract dimensions.

At this stage, it is important to observe that the control dimension is always private across observed contract types because we are not concerned with full public provision. Each MNCs entry decision involves at least private operation and management, therefore statistical variability cannot be explained regarding this dimension. Thus, we map entry outcomes through the remaining pair of discrete dependent variables: (0,0) in the case of management and lease contracts (i.e. public funding and ownership); (1,0) for concessions and greenfield projects (i.e. private funding and public ownership), and (1,1) for divestiture contracts (i.e. private funding and ownership). This calls for a bivariate probit specification where binary dependent variables are correlated:

\[ y_2^* = x_2'\beta_2 + \varepsilon_2, \quad y_2 = 1 \text{ if } y_2^* > 0, \ 0 \text{ otherwise} \]

\[ y_3^* = x_3'\beta_3 + \varepsilon_3, \quad y_3 = 1 \text{ if } y_3^* > 0, \ 0 \text{ otherwise} \]
Instead of observing both $y_2$ and $y_3$, we observe the product, $y = y_2y_3$. According to Greene (2006), this situation arises when we observe the final outcome of two decision processes (i.e. bargaining on funding and ownership) that lead to a single conclusion – or entry outcome. In our setting, partial observability occurs when we can observe a positive outcome for only one of the dependent variables (ownership) when the other (funding) is also positive. Thus, there are three types of observations in the sample, with conditional probabilities:

\[
\begin{align*}
    y_2 = 0: & \quad \text{Prob}(y_2 = 0 | x_1, x_2) = 1 - \phi(x_1' \beta_2), \\
    y_3 = 0, y_2 = 1: & \quad \text{Prob}(y_3 = 1, y_2 = 0 | x_1, x_2) = \phi_2(-x_1' \beta_3, x_2' \beta_2, -\rho) \\
    y_3 = 1, y_2 = 1: & \quad \text{Prob}(y_3 = 1, y_2 = 1 | x_1, x_2) = \phi_2(-x_1' \beta_3, x_2' \beta_2, -\rho),
\end{align*}
\]  

(2)

where $\phi$ and $\phi_2$ denote, respectively, the univariate and bivariate standard normal density functions.

In principle, a multivariate model would extend (1) to more than two outcome variables just by adding equations. The practical obstacle to such extension is primarily the evaluation of higher-order multivariate normal integrals. According to Maddala (2004) and Greene (2006), some progress has been made on using quadrature for trivariate integration, but existing results are not sufficient to allow accurate and efficient evaluation for more than two variables in a sample of even moderate size. Thus, even if we observed statistical variability to explain control dimension choices, it would not be feasible to obtain estimates of three-variate probit specifications.

4.4. Estimation results and discussion.

Tables 9 and 10 in Appendix 2 shows univariate statistics and bivariate correlations. In particular, table 10 shows a high partial correlation between interest group competition (i.e. the percentage of water used in the agriculture sector) and access to water by population. To avoid multicollinearity and loss of explanatory power we choose to test each variable separately. Table
7 presents the estimates of the marginal effects for the two resulting models.

**Table 7. Estimates of marginal effects after bivariate probit regressions**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
</tr>
<tr>
<td></td>
<td>Funding</td>
<td>Ownership</td>
<td>Funding</td>
<td>Ownership</td>
</tr>
<tr>
<td>Worldwide scale</td>
<td>0.068</td>
<td>-0.087*</td>
<td>0.067*</td>
<td>-0.062*</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td>(0.04)</td>
<td>(0.04)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>International experience</td>
<td>0.073*</td>
<td>-0.068</td>
<td>0.056*</td>
<td>-0.076</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(0.23)</td>
<td>(0.01)</td>
<td>(0.31)</td>
</tr>
<tr>
<td>Support from mult. fin. inst.</td>
<td>0.135*</td>
<td>0.192*</td>
<td>-0.126*</td>
<td>0.145*</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(0.67)</td>
<td>(0.05)</td>
<td>(0.06)</td>
</tr>
<tr>
<td>Interest group competition</td>
<td>2.687</td>
<td>3.46</td>
<td>2.70</td>
<td>2.70</td>
</tr>
<tr>
<td></td>
<td>(1.83)</td>
<td>(2.59)</td>
<td>(2.59)</td>
<td>(2.59)</td>
</tr>
<tr>
<td>Corruption</td>
<td>-0.152*</td>
<td>0.341</td>
<td>-0.139*</td>
<td>0.456</td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
<td>(0.33)</td>
<td>(0.04)</td>
<td>(0.28)</td>
</tr>
<tr>
<td>Opp. cost of public funds</td>
<td>6.21**</td>
<td>7.36*</td>
<td>6.59*</td>
<td>6.25**</td>
</tr>
<tr>
<td></td>
<td>(1.98)</td>
<td>(3.51)</td>
<td>(3.52)</td>
<td>(2.23)</td>
</tr>
<tr>
<td>Regulatory commitment</td>
<td>-3.87**</td>
<td>-1.79*</td>
<td>-3.74**</td>
<td>1.85*</td>
</tr>
<tr>
<td></td>
<td>(1.06)</td>
<td>(0.91)</td>
<td>(1.28)</td>
<td>(0.87)</td>
</tr>
<tr>
<td>Density</td>
<td>0.568*</td>
<td>0.462*</td>
<td>0.459*</td>
<td>0.673*</td>
</tr>
<tr>
<td></td>
<td>(0.29)</td>
<td>(0.21)</td>
<td>(0.25)</td>
<td>(0.34)</td>
</tr>
<tr>
<td>Access</td>
<td>–</td>
<td>–</td>
<td>1.561</td>
<td>1.783</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(1.08)</td>
<td>(1.47)</td>
</tr>
<tr>
<td>( \rho )</td>
<td>0.141</td>
<td></td>
<td>0.214</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.093)</td>
<td></td>
<td>(0.281)</td>
<td></td>
</tr>
<tr>
<td>Wald test (overall signif.)</td>
<td>8.31</td>
<td></td>
<td>11.41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[0.015]*</td>
<td></td>
<td>[0.003]**</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Significant levels: \(^*\) 10\%, \(^*\) 5\% level, \(^**\) 1\%.
In parenthesis, standard errors.
In square brackets the probability that the statistic is not significantly different from zero.

Estimated coefficients represent the marginal effect –on the likelihood of getting MNCs involved either through funding or asset ownership– of an increase of one unit in an independent variable –holding the rest constant. Overall, these results provide support for hypotheses 1, 3, 6, 7, and partial support for 2, and 5 –since hypotheses 2a, and 5b cannot be rejected and take expected signs. Conversely, we found evidence to reject hypothesis 4. Both control variables –density and access– are statistically significant and shows expected signs.
The estimates for $\rho$ are 0.141 and 0.214 in models one and two respectively. The Wald statistics for the test of the hypothesis that $\rho$ is zero is rejected in both cases. It measures (roughly) the correlation between the disturbances in the equations in (1) after the influence of the funding equation is already accounted for.

The significant and positive effect of MNCs worldwide scale on funding –and the negative effect on ownership– means that MNCs prefer capital-intensive projects given their potential reductions in unit costs –and host country’s expected to local employment. This driving force (perception of value) allows MNCs to start-up with greater foreign funding and ownership – either through concessions, greenfield projects (BOT) or divestitures. However, large amounts of private capital –relative to the resources of the host country– once sunk, are relatively immobile in the water industry and may increase the bargaining power of the host country. Thus, the effect of MNCs worldwide scale on contract type favors the choice of concessions and greenfield projects.

Support for hypothesis 2a and –and rejection of 2b– means that management and lease contracts are seen by MNCs as an opportunity to begin to build up international experience in the sector before taking on more demanding role of managing a concession (i.e. private control and funding). It can also be seen as considering management and lease contracts as an alternative to begin to sort out potential problems before committing to a long-term contract that will have to be renegotiated as soon as the concessionaire begins to discover the actual condition of the assets (Franceys, 2001). In the particular situation of Suez and Veolia private managers are likely to have gained greater experience and knowledge of market-based contracting, which tends to place them in a stronger bargaining position. Thus, although in this case the ownership dimension is not statistically significant, market concentration in some countries has enabled both companies to operate independently through divestitures.

Regarding the effect of the variable support from multilateral financial institutions on funding and ownership dimensions we observe that both coefficients provide support to hypothesis 3b and 3c. That is, we cannot reject the argument that World Bank’s support practices often
involves offering of funds conditional on the participation of the international business community. It has proven to be a source of MNCs bargaining power since decision-making on local and sub-sovereign projects is moved to the international level. Indeed, World Bank’s Development Report (1994) argues that when governments are not credit-rationed, they tend to be able to raise funds at lower rates than private firms. However—as this report suggests—the cheaper credit available to governments needs to be weighed against possible inefficiencies in channeling funds through government. The effect of this variable leads us to observe more often divestitures (i.e. projects with private funding and private ownership), however we did not find any tractable explanation for the observed switch in coefficient sign between models 1 and 2.

The coefficients associated to interest group competition shows that the effect of agriculture sectors demand for the extension of service networks on private funding and ownership are not significant. This finding is consistent with Henisz et al. (2004) evidence that citizens and organized interest groups (like the agriculture sector) in countries suffering water shortages virtually have spent their lives in a world where government ownership was a rarely questioned fact; they not only accept but also often expect politicized pricing and government ownership.

Table 7 also shows the significant effect of corruption—including expected sign on private funding—provides support to hypothesis 5b. Conversely, there exist evidence to reject hypothesis 5c, therefore the effect of this variable leads us to observe MNCs entering through concession and management projects—in exchange for bribes with government agencies. In addition, it is worth to observe that the fact that the coefficient associated to ownership is positive—contrary to what is expected and almost statistically significant—implies that often there exist the chance for host states of gaining profitable business by awarding divestitures. It might be the case that the value of the business to be won will influence the size of bribes that companies might offer. For instance, a full divestiture worth $20m a year, companies will offer bigger, riskier payments than for a 2-year lease contract worth $5m. The growth of long-term water agreements might therefore increase the possibility of potential gains.
Estimates associated to *opportunity cost of public funds* are significant and exhibit expected signs concerning hypotheses 6b and 6c. Accordingly, the positive effect of this variable on funding and ownership outcomes implies that developing countries may derive financing as well as ownership benefits from private participation in service provision. Not only do they frequently have undeveloped domestic capital markets, but they may also have lower credit ratings than many international corporations. It will often, therefore, be cheaper to finance projects privately than through government borrowing.

The negative—and significant—effect of *regulatory commitment* on funding and ownership leads us to observe more often management and lease contracts compared to other types of entry. For instance, concessions, greenfield projects and divestitures may be too slow to achieve MNCs desired strategic objectives, notably if they pursue first-mover advantages in a given developing country. This is similar to the argument advanced by Meyer *et al.* (2004) who argue that establishment costs—such as approval of real estate acquisition—may face political risks, as well as complexity due to associated bureaucratic procedures. According to Perotti (1995), one potential solution to this complexity is the negotiation of partial state ownership—like in the particular case of greenfield projects—which can stabilize investor expectations and serve as a credible signal that host states will not adopt vindictive policies after private participation in provision.

It is worth noticing that the statistical significance—in both models—of the control variables *density* and *access* suggest that in high market potential countries (i.e. with densely and interconnected end-users) there exists opportunities to achieve economies of scale that provide them with lower marginal cost—and as a consequence better performance.

As observed from table 7, numerically the strongest effect appears to be exerted by opportunity cost of public funds is by far the largest. This variable—along with interest group competition, and access—however cannot change by a full unit because they are proportions. For instance, an increase of 1 percent in this variable raises the likelihood of observing private funding by only 0.062—in model 1—which is comparable to the effect of worldwide capacity and international experience. Thus, it important to notice that the size effect of support from multilateral financial
institutions and corruption ("corrupt" variables coefficient) are larger compared to the rest of independent variables. Both variables exhibit larger effects and therefore are dominant factors in dealing with contractual outcomes – even when efficiency considerations are taken into account (e.g. by taking into consideration worldwide scale, international experience, and opportunity cost of public funds).

Finally, it is worth to observe there is broad consensus that effective competition is a strong efficiency incentive, and that it often is more powerful than the specification of property rights (Vickers and Yarrow 1988). Indeed, the bargaining power of MNCs vis-à-vis host developing countries weakens as industry competition intensifies. However, the discipline of competition cannot be effectively introduced in the water industry, and the effectiveness of instruments such as regulation, is frequently limited by the bargaining asymmetry related to superior legal, technical and economic resources enjoyed by private water and energy companies vis-à-vis public authorities, especially when these are in developing countries. This is aggravated by severe forms of path dependence, resulting from the past monopoly structure of the industry, which, despite the influx of new technologies that support competition cannot be reversed easily.

5. Conclusions.
The host countries in this study represent all major geographic regions where the involvement of multinational companies in water infrastructure has been reflected in a number of entry modes. All these create relationships between the private interests of companies – which include a return on capital and limitation of political risk – and the public interest involved in this sector, which includes economic and political interests not necessarily based on efficiency grounds. Indeed, the difficulties with the pursuit of corporate objectives are especially acute in sectors with strong public service dimensions and political salience characteristics – as exhibited the water industry. One aspect of this derives from the monopoly characteristics of water distribution, where the permanent opportunity for exploitation creates a permanent economic incentive.

Given the few world’s water multinationals, one cannot imagine – at least in the short run – any serious rivals to Suez and Vivendi (Finger, 2001). Their multi-utility strategy enables them to
offer an integrated package of public services on the occasion of any competitive bid—and this competitive position leaves no room for small local companies. In addition, they can also enter the market in multiple ways, being water distribution one of the entry points.\textsuperscript{14}

Because all these modes involve resource commitments (although at different levels), firm’s initial choices of a particular mode are difficult to change without considerable loss of time and money (Root, 1987). Entry mode selection is therefore, a very important, if not critical, strategic decision that often require complex negotiations to ensure that risks and responsibilities are allocated optimally and potential monopoly problems are avoided.

On the public side, there has been too much focus on the end-result “architecture” and not enough on the basic foundations needed.\textsuperscript{15} Thus, the debate on private participation has become extremely polarized. If one of the main discussions in the water sector continues to focus on who owns the assets in water utilities, it will only result in the kind of debate that is more prone to ideology than substance. In this sense, the most important contribution of this paper relative to previous studies is that it covers a range of ways in which MNCs have been introduced and exercised in water, as opposed to a benchmark of equity/non-equity entry regarding assets and associated rights.

The entry modes included in this paper cover a more fine-grained range of legal arrangements from management contracts, over concession and lease contracts, to full divestiture. In essence, by introducing some assumptions regarding both parties behavior, we analyze contractual entry as whether the private operator has control over operation and management, provides funding to the project, and owns utility’s assets.

\textsuperscript{14} One can observe that new groups coming from other network sectors, in particular from the electricity sector, are now challenging these traditional water MNCs. For instance, RWE thanks to its acquisition of Thames Water could become the third main global MNC in network services.

\textsuperscript{15} For instance, in many countries the same public works agency is in charge of planning infrastructure, designing and awarding and awarding the PPP contract, monitoring compliance and renegotiating. As a result, public works agencies tend to be biased and achieve inefficient project selection by favoring building activities as much as possible.
The most important factor driving contract outcomes appears to be continual profit-seeking—and risk-avoiding behavior—of international water companies, in interaction with local and national governments pursuing mixed political and fiscal goals. Community movements and international donors and institutions are also involved pursuing their own goals. The results of this process are strongly affected by the unequal distribution of resources between the parties and by the limited competition in the sector. Thus, while assessing empirical evidence on water multinational entry we do not have data available on purely public provision contracts by local utilities so as to compare their performance.

While private-sector incentives to pursue operating and funding efficiencies can be replicated by involving private sector in service provision, these cannot be used to promote capital efficiency. In the particular case of divestitures, the primary justification for private ownership comes from the incentives that it provides to identify and implement profitable capital expenditures. Even in the absence of competition, private ownership may encourage more appropriate decisions concerning entry and exit, and expansion and contraction of existing activities. In addition, public and private organizational differences lead governments—as designers of tender processes—to include and negotiate specific contract provisions that often are not necessarily based on efficiency grounds. Thus, the role of government in the world’s market economies still continues to play a critical role in shaping MNCs ability to create and capture value.

Analytical evaluation of cross-country experience in the context of water sector is valuable, at least, on two aspects. While cross-country experience provides countries with the option of learning and adapting from each others experience with minimal cost of experimenting new institutions under uncertainty, it also enables firms in developing a basis for both framing and perfecting entry mode strategies. For instance, the innovative safeguards that were introduced in developing countries for the first time in the 1990s (e.g. such as international arbitration of disputes, bilateral investment treaties to secure investor rights, and the creation of specialized regulatory agencies) have proven to be inadequate. Indeed, existing contracts modes are not flexible enough to accommodate uncertainties and to shift bargaining power of host governments and investors over the life of infrastructure projects. Based on a solid understanding of ground experience, it is desirable—for international business scholars and practitioners—to propose new
arrangements that help to reverse recent decline in the number of water infrastructure projects and better balance MNCs interests with developing countries interests.
### Appendix 1. Water MNCs presence in the water sector, number of contracts and comparison of global private water business

<table>
<thead>
<tr>
<th>Country</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
<th>(10)</th>
<th>(11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>•</td>
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<tr>
<td>Bolivia</td>
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<td>Bulgaria</td>
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<tr>
<td>Brazil</td>
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<tr>
<td>Central African Rep.</td>
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<tr>
<td>China</td>
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<td>Chile</td>
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<td>Colombia</td>
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<tr>
<td>Cote d'Ivorie</td>
<td>•</td>
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Notes: (1) Suez Lyonnaise/Ondeo; (2) Vivendi/Veolia; (3) SAUR-Bouygues; (4) RWE/Thames; (5) E.ON; (6) Biwater; (7) Severn Trent; (8) Anglian Water; (9) Hyder/Cascal; (10) IWL/United Utilities; (11) Azurix.
Source: PPI and PSIRU databases; Finger (2001).
The water business is dominated by the two largest French multinationals, Suez and Vivendi, who between them hold about 70% of the international privatized water business. The figure below compares the 2001 sales of these two and the next largest companies. There are one or two even smaller international operators, from Spain and Italy.

Source: PPI and PSIRU databases.

Appendix 2. ANOVA tests, descriptive statistics, and correlation coefficients.

Table 8. ANOVA tests for differences in variable means

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Table 9. Descriptive statistics

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Table 10. Pearson correlation coefficients

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* Significant at 5% level.
ª Significant at 10% level.
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