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PUBLIC-PRIVATE PARTNERSHIPS:
A MULTIDIMENSIONAL MODEL FOR CONTRACTING

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Abstract

This paper considers the relationships between public and private organizations entering into public-private partnerships (PPPs) within the context of New Public Management. After offering a brief discussion of similarities and differences between public and private organizations and their relationships, it provides a short overview of how PPPs are organized in practice. Through elaborating on three dimensions of differentiation between public and private organizations – ownership, funding and control – it proposes a matrix model for identifying a suitable "dimensional mix" for PPP contracts.

Keywords: Public-private partnerships, hybrid organizations, contractual choices, qualitative comparative analysis.

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Introduction

In recent years, the functioning of public and private organizations has been subjected to ever increasing demands from society. Individual organizations often have insufficient expertise to deliver the high-quality products and services demanded of them. The necessary resources –expertise, money, information, personnel, management– are divided among different organizations. Exchange of resources is therefore necessary in order to meet targets, make investments and/or solve social problems. Dependencies thus lead to an increasing need for interaction and cooperation, and this enables organizations to maintain their autonomy and limit the costs of bureaucracy. As a result, the significance of hierarchy within society is decreasing and that of horizontal relations, increasing; society today is gradually adopting the characteristics of a network society (Castells, 1993). In the private sector, companies are increasingly seeking new opportunities in strategic alliances and the formation of industrial networks (Graeber, 1993). In the public sector, various forms of cooperation and coordination between and among ministries and levels of government are spreading. In addition, interdependencies do not stop at the frontier between the public and private domain, as interdependencies are increasingly recognized between private and public parties.

Public-private partnerships have been developed in many countries around the world in the context of "New Public Management" (NPM) reform (Hood, 1991). Some politicians and scholars have argued that the NPM movement represents a "new global paradigm', while others have been skeptical (e.g. Grimshaw, 2002). This second group argues that it is uncertain whether parties are able to successfully maintain public-private cooperation in the long term. Cultural and institutional differences between the public and private domain and the underlying risks when the two sectors interact are an obstacle to successful public-private partnerships (Jacobs, 1992). To the extent that new role divisions, working practices and arrangements are needed to bridge this gap, the development of successful public-private partnerships is one of the biggest challenges facing organizations in both domains (van Ham and Koppenjan, 2001).

NPM reform has been consistently grounded in, and developed and applied on the basis of, institutional economic theory and its rhetoric of "rationalizing" public-sector activities. In particular, several studies have examined public-private partnerships (PPPs) in terms of their variety of types (e.g. concessions, lease, management contracts) and areas of application (e.g. provision of utility services, education and health care) from various theoretical perspectives, including, but not limited to, transaction cost economics (Crocker and Masten, 1996; Huet and Saussier, 2003), agency theory (Guasch, Laffont and Straub,

2003) and property rights theory (Hart, 2003; Bennet and Iossa, 2003). In particular, one area of research has focused on comparative analyses of different contractual arrangements in the provision of public services (e.g. Crocker and Masten, 1996; Huet and Saussier, 2003). These studies neglect the fact that factors other than economic efficiency play an important role. More specifically, in their framework they put to one side factors that may depend on institutional elements (e.g. political influence, interest group competition) in order to focus on variables related to governance per se.

In the context of the Private Finance Initiative (PFI) in the U.K., the research agenda proposed by Broadbent and Laughlin (1999: 105-6) is grounded in the need to consider whether, and how, the macro-economic context and other requirements impinge on the expression of the PFI's organizational level. In addition, due to the complexity of their organizational forms and the economic environments within which PPPs operate, part of the discussion has moved from justifying private sector participation to explaining the choice of the type of partnerships adopted in practice. This paper addresses the question: *"What are the determinants of a partnership's contractual choices?"*

According to Pollitt and Bouckaert (2000), both contract choice and the initial conditions that have to be met strongly influence the success or failure of PPPs. Reform programs under the NPM perspective have been taking place in very different forms in the countries that have adopted them. However, common characteristics in many of these programs have included the decentralization of functions and responsibilities, contracting out of services and the creation of "internal markets', and the promotion of partnerships between government and the private and voluntary sectors. The UK Private Initiative is just one manifestation of this tendency.

There is a need to develop frameworks to allow more meaningful analysis of partnerships, distinguish different types of partnerships and make partnerships more effective. Without effective frameworks there is a risk that much of the research may be considered as just studies analyzing particular circumstances. However, after considering the growing empirical evidence, one conclusion is that care must be taken when trying to generalize about PPPs.

This paper is structured as follows. Section 1 gives a macro picture of public-private partnerships in a global context. It begins by approaching them from a perspective of cross-sector collaboration. Section 2 offers a discussion of similarities and differences between public and private organizations and their relationship in the context of NPM reform. Likewise, by taking an ex-ante approach, Section 3 elaborates on three dimensions of differentiation between public and private organizations –ownership, funding and control– and proposes a matrix model for identifying a suitable "dimensional mix" for PPP contracts. Section 4 discusses how this model can be applied to infrastructure projects. Section 5 offers some concluding thoughts.

1. The Context of Public-Private Partnerships: Cross-Sector Collaboration

Broadly speaking, stakeholders create temporary collaborative alliances (often with the assistance of a third party) to pursue a common goal or search for mutually acceptable solutions. Such alliances have been used, for example, to solve environmental disputes (Carpenter and Kennedy, 1988; Gray, 1989; Lynn, 1987), create public-private partnerships (Brooks, Liebman and Schelling, 1984; Wood and Gray, 1991), maintain rapid technological change and compete in global markets (Peters, 1988; Gray, 1989), and deal with cross-sectoral disputes in international contexts (Astley and Fombrun, 1983; Gray, 1996).

In general, collaborative alliances have been identified as a logical and necessary response to conditions where organizations become highly interdependent in unexpected but consequential ways (Astley and Fombrun, 1983; Trist, 1983). Through collaborative efforts, stakeholders realize their interdependence, increase variety in their potential responses to the problem (Trist, 1983) and achieve increased reciprocity, efficiency and stability among themselves (Oliver, 1991). However, despite their increasing use, collaborative alliances are not the solution to all common problems. A suitable initiative does not ensure success. As Huxham and MacDonald (1992) have noted, collaboration might involve repetition, omission, divergence and counter-production and often an inability to compete with the market leaders.

Combinations of cross-sector collaborations can include pairings of *government agencies* and *for-profit firms, for-profit firms and non-profit organizations,* and *government agencies and non-profit organizations*. Although each of these suggests a somewhat different kind of interaction, depending on the particularities of the country concerned, it can be argued that, in general terms, the main role of *government agencies* is to define and promote the achievement of public purposes in a manner that retains the confidence of the public. The basic role of *for-profit firms* is to produce goods and services demanded by customers in a competitive market in a manner that generates a favorable return on investment and creates the capital required for future investment, innovation, and risk-taking. And the core role of *non-profit organizations* is to meet worthy social needs and allocate voluntary resources in a manner compatible with broader public purposes and their own financial constraints.

While carrying out those core roles, each sector is expected to engage in a productive set of relationships with the other two. *Government agencies* not only provide public services directly to citizens, but also specify the legal and policy context for the private market and the non-profit sector. Likewise, *for-profit firms* are expected to be socially responsible and contribute to the community, not only by producing important goods and services, providing jobs and generating a tax base, but also by being “good” corporate citizens. And *non-profit organizations*, which depend basically on contributions from firms and government agencies, are expected to experiment with different means of addressing social needs, and in turn assume that government or business will reward worthy performance by providing support to social programs.

In response to market forces, *for-profit firms* are seeking new markets in areas previously dominated by *government agencies* and *non-profit organizations*, such as health care, education, and welfare services. *For-profit firms* are also seeking ways of marketing their new capacities directly to *government* and *nonprofits*, and partnering with both in a way that allows for new business opportunities. In the process, *for-profit* firms have developed a “global” performance culture that is tightening the link between charitable contributions and corporate performance, with implications for both *government agencies* and *nonprofits*. And in some cases, *for-profit firms* are bypassing traditional public systems, such as education and training, or order to get faster results in an environment with rapidly changing needs (Kickert, Klijn, and Koppenjan, 1997; Fosler, 2000).

Similarly, *government agencies* –in most industrialized countries– are reformulating the concept of public purposes and the best means of achieving them. In particular, *governments* around the world are trying to take greater advantage of the potential of *for-profit firms* and *non-profit organizations*, through privatization, contracting and other market mechanisms such as vouchers and competitive bidding among all three sectors (The World Bank, 1996; OECD, 1993). They are trying to learn how to do this, but at the same time there is a need to preserve important democratic values of accountability, equality, freedom and privacy, public engagement, and respect for the individual.

Non-profit organizations are experiencing a growing demand for their services, even as their donors, constituents, and governing boards are demanding higher standards of performance and accountability (Fosler, 2000). They try to respond by seeking better ways of carrying out their responsibilities, improving their organizational capacity, replicating successful experiences, partnering with *for-profit firms and government agencies*, and becoming more involved in policy and decision-making.

In short, the conventional lines distinguishing *government agencies*, *for-profit firms*, and *non-profit organizations* are becoming less defined. All three sectors essentially provide services or access to meet individual needs and desires. And each sector appears to be more engaged in the traditional activities of the others. This growing interaction represents opportunities for the construction of new relationships and mutually reinforcing efforts. The strategies, practices, and activities that the three sectors use to try to undertake their respective roles have changed, and this has been altering the relationships among them (Kickert et al., 1997; Fosler, 2000; van Ham and Koppenjan, 2001). Indeed, it is necessary to understand these changes better, especially in terms of their implications for cross-sector collaboration, since sectors can work together to achieve mutual goals and public purposes that none of them could achieve on its own. In addition, it is only through collaboration that the three sectors can reflect their institutional changes and reach consensus on the adjustments that may be needed to secure the satisfactory functioning of the system as a whole[1].

2. The Introduction of New Institutional Arrangements

In recent years, there has been particular interest in cooperation between public enterprises and private firms to undertake productive activities aimed at assisting and supporting society and achieving higher welfare through their own initiatives. According to Giddens (1998), these cooperative arrangements are part of a broader process that seeks to restructure government to find a blend –a third way– of the best features of market and bureaucratic designs, so that it *“follows the ecological principle of getting more from less, understood not as downsizing but as improved delivered value”* (p. 74).

In this context, the term “New Public Management” (NPM) started to be widely used as a clear manifestation of this tendency in international academic and public sector discussions[2]. Despite its being frequently used, it has rarely been defined. In the literature, it is usually defined as a movement that supports a set of beliefs or ideology among politicians in countries in which governments –at national, regional, or local level– have strong traditions of directly providing and managing publicly funded public services. Alternatively,

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1 In a comparison of capitalism and communism, Mintzberg (1996) observes that the former did not triumph at all; balance did. He points out that western countries have been living in balanced societies with strong private sectors, strong public sectors, and great strength in the sectors in between. In contrast, countries under communism were totally out of balance since the state controlled an enormous proportion of all organized activity –there was little or no countervailing force.

2 Broadly speaking, the focus of the new public management movement is on creating an institutional and organizational context that –in as many respects as possible– tries to mirror the private sector’s modes of organizing and managing. The core of NPM ideology –which has been influential in the development of public sector reform programs in the ’80s and ’90s– is that public sector provision was often inefficient; that it led neither to cost reduction nor quality improvement; and that –if unchecked– it would generate growth in tax bills, an increasingly dissatisfied electorate and a declining quality of service provision. Thus, based on these beliefs NPM sets cost attainment, public support, and performance improvements as the centrals drivers for reform.

NPM is considered as a set of practices that are a subject of study by academics and can be observed in recent public reforms in the U.K.[3]

The most cited article expounding the concept of new public management (Hood, 1991) examined the origins, rise and acceptance of new public management, as well as its critics. Hood describes NPM as an administrative doctrine based on two conceptual frameworks. The first is micro, based on managerialism (Pollitt and Bouckaert, 2000), which supports the introduction of "business-like" management practices that include attempts to manage professionals, and the adoption of performance measures and incentive rewards systems (Dawson, 2000). The other, which is macro in nature, puts emphasis on markets that represent variants of public choice, rational choice, and new institutional economics (Niskasen, 1971; Alchian and Demsetz, 1972; Williamson, 1996). That is, the latter stresses decentralization and competition issues, as opposed to the centralizing tendencies promoted by the former.

In this paper, the study of public-private partnership contracts is approached from this second conceptual framework. The most critical factor in the NPM rationale has been the introduction of market mechanisms, so that contracts rather than hierarchies can become the dominant means of control. In particular, an important part of this process is the creation of quasi-markets, in which new organizations are created and commissioned to purchase public services, while either public or private organizations provide them (Ferlie, 1992).

In the context of infrastructure for the provision of public services, the mutual adjustment of public functions and roles becomes a fundamental prerequisite for the success of numerous initiatives. However, before going into more detail about its implications for how public-private partnership modes are chosen, it is necessary to be more precise about the similarities and differences between the two sectors and the role that partnerships play in fostering coordination across public and private organizational boundaries.

3. Public-Private Organizational Relationships

The blurring of public and private sectors has long contributed to a controversy over whether one can usefully define and identify public and private organizations. For instance, Simon (1948) noted that because of overlapping characteristics between public and private organizations, *"the distinction between public and private management is hardly one of black and white"* (p. 70). In the same context, Dahl and Lindblom (1953) depicted the public-private distinction as a complex continuum, with a variety of hybrid organizations, ranging between government agencies at one extreme and private enterprises on the other. In contrast

[3] Dunleavy and Hood (1994) presented four alternative new public management models derived from a two-by-two matrix. One axis measures the density of rules in the system, and the second one, the degree of distinction between public and private sectors with respect to personnel, structures and business methods. They suggested that there are not one but several movements within NPM which will lead the future. Indeed, looking outside the U.K., there are alternative models and developed thinking on NPM –even in countries that have a strong tradition of a large state-controlled public sector. Diversification has taken place as NPM is adopted in political, cultural and organizational contexts. For instance, NPM might be characterized by reinventing government or entrepreneurship in the U.S.; decentralization and regulation in European Nordic countries; contracting in New Zealand; and cost and control measures in the U.K.

to this perspective, other authors have stressed the differences between the two sectors (Rainey, Backoff, and Levine, 1976; Allison, 1979)[4]. Yet others have argued that, while the distinction appears to have important implications for organizations, more sophisticated studies are required to assess the differences as a complex multidimensional continuum (Bozeman, 1987; Perry and Rainey, 1988; Lan and Rainey, 1992; Boyne, 2002).

Most of the recent literature in economics (e.g. Stiglitz, 2002), organization theory (e.g. Gortner, Mahler, and Nicholson, 1987; Farnham and Horton, 1996) and sociology (e.g. Giddens, 1998; Etzioni, 1993) points to a blurring of the boundary between public and private organizations rather than to a bifurcation, and therefore, the desirability of general approaches to organization and management (e.g. Murray, 1975). These authors and many others have long noted that a) public and private organizations blur together because they have many similarities, interrelations, and overlaps; and b) there are many mixed or hybrid forms of organization with both public and private features. More precisely, most critiques of the public-private dichotomy to date have stressed that authors who use a simple public-private distinction fail to recognize variations in the economic environment. They do not see as important the relationship between the structural characteristics of public and private organizations and the economic environment surrounding them. For instance, the Economics literature notes that the overlapping disciplines of public and private sectors is oriented mainly toward the concept of the "mixed economy". This concept constitutes a large variety of economic patterns, which are neither totally dominated by state enterprises nor operating under a totally unregulated system of competitive private firms. In the mixed economy system, nothing seems to be either purely public or purely private (Friedman, 1962). Joint private and public venture organizations are found where there are commercial risks involved. In the past, it was because the private sector was unwilling to bear those risks that government was required to step in. In recent years, however, the private sector has assumed a position to bear the risks that the public sector does not want to, mainly because of the burden of investment[5].

3.1 Public and Private Organizations: Three Dimensions of Differentiation

In the literatures on public administration, politics and economics the conventional distinction between public and private organizations is based on *ownership* (Rainey et al., 1976). That is, private firms are owned by entrepreneurs or shareholders and public agencies are owned collectively by members of political communities. However, this distinction is associated with two further public/private contrasts. First, unlike their private counterparts, public agencies are *funded* largely by taxation rather than fees paid directly by customers

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[4] In the 1970s some authors suggested that public and private organizations can be distinguished according to the presence or absence of market structures, externalities, and ownership transferability (Buchanan and Tullock, 1962; Niskanen, 1971; Alchian and Demsetz, 1972; Clarkson, 1972). More generally, these authors support the idea that a fundamental basis for distinguishing public and private sectors is the organizational aims and typical functions performed by each organization (e.g. public sector focus would stress elements such as equity, fairness, and the rule of law in handling public provisions, whereas the private sector would focus on cost-benefit analysis, effectiveness, and efficiency in performing its business). However, this assumption has been challenged by the more skeptical view of several contemporary scholars. In particular, Murray (1975) and Lan and Rainey (1992) assert that the notion that profits are the sole or main reason for the existence of private business –and that profits are never the objective of public sector activities– is itself misleading.

[5] Clear evidence of this is seen in several projects that have been undertaken by the private sector in the United Kingdom under the new investment scheme denominated "the Private Finance Initiative (PFI)" (United Kingdom, HM Treasury, 1995).

(Walmsley and Zald, 1973). Secondly, public sector organizations are controlled predominantly by political forces, not market forces (Dahl and Lindblom, 1953). The way resources are distributed in public organizations is through democratic means, whilst in the private sector it is through the price system.

By arguing that no organization is wholly public or private, Bozeman (1987) synthesized the above three variables –ownership, funding and control– into a "dimensional" model of a construct denominated *"publicness"*[6]. Then, he located private firms and public organizations on these three dimensions. The analysis presented in this paper follows the same approach for the location of any single public-private partnership on the dimensions of *publicness*. Therefore, it is important to distinguish between the three dimensions of *publicness* because they have different theoretical effects on organizations. Firstly, property rights theory suggests that common *ownership* leads to lower efficiency in the public sector (Clarkson, 1972). This is because in private organizations owners and shareholders have direct monetary incentives to monitor and control the behavior of managers, and these, in turn, are likely to perform better if they own company shares as their wage is linked to the organization's financial success. By contrast, property rights in the public sector are diffuse and vague since monitoring is a "public good" and citizens have little gain from increasing effort in this activity. In addition, managers usually do not gain any direct financial reward from improving organizational efficiency. Secondly, the funding dimension embedded in publicness has been stressed by public choice theory. According to this perspective, organizations that receive revenues from "political sponsors" are likely to be unresponsive to the preferences of the people who receive their services (Boyne, 2002). Finally, organizations that are subject to political rather than economic *controls* are likely to face multiple sources of authority that are potentially conflicting. Bozeman (1987) argues that all organizations are public because political control affects some of the behavior and processes of all organizations.

The political *control* view proposed by Bozeman implies that common *ownership* and reliance on public *funding* will not be relevant if effective political authority is absent. Moreover, organizations that are privately *owned* and *funded* can demonstrate more public sector characteristics than others that are formally part of the government sector (Boyne, 2002). For instance, a private firm that complies with state policies (e.g. on health and safety regulations, or on equal opportunities legislation) can be seen as more "public" than a government agency that ignores the goals of its political directors. In this context, from the public choice theory perspective, the pursuit of private interests becomes a common characteristic of public organizations. That is, agencies that are "out of control" exhibit high levels of *privateness* in the sense that their behavior is determined by the selfish goals of top-level bureaucrats rather than by market conditions or political priorities.

More generally, according to the three dimensions described above, an organization might exhibit more public sector characteristics in one dimension than in another. Despite these complexities, many scholars agree that one can define core categories of public and private organizations according to the subject of research. For instance, Wamsley and Zald (1973) define public organizations as those owned and funded by government, and private organizations as those *owned* privately and *funded* primarily through sales or private donations. Then, they consider organizations that overlap on these two dimensions –for example, those owned by government but funded through sales and user charges, or those

[6] Although Bozeman's arguments are based on the idea that "all organizations are public", equally valid conclusions can be obtained if they are employed to determine the extent to which any given organization is private.

owned privately but *funded* primarily by government contracts– as hybrid categories. Similarly, public organizations can be categorized as those *owned, funded* and *controlled* by government. For the particular case of public-private partnerships analyzed in this paper, this working definition allows for their various types to be identified as hybrid categories along a single continuum of *publicness.*

In short, while dealing with the dimensions of differentiation between public and private organizations, the basic idea in this section is to synthesize the three relevant approaches by aligning them into a practical dimension (i.e. *publicness*), where the practical problem with which policy-makers and managers are confronted –differences between the two kinds of organizations– serves as the synthesizing mechanism.

3.2 The Role of Public-Private Partnerships

As argued before, the shift in the nature and form of the private sector's involvement in areas that previously were the exclusive domain of governments has led to changes in organizational forms and regulation. In this context, public-private partnerships (PPPs) are 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).

Several definitions of public-private partnerships have been provided by scholars, local and state governments, and international institutions (see Table 1). Although other definitions could be cited, these are sufficient to identify the primary characteristics with which this paper is concerned. An explicit element of most of these definitions is the co-operative nature of public-private partnerships: several specify the cooperative pursuit of shared or compatible objectives for the attainment of mutual benefits. More precisely, in terms of the three dimensions identified previously, namely *ownership, funding* and *control*; a common element in them is the requirement that the partnerships involve *joint investment* of resources from both *owners*. Another particularly important common element is the emphasis on *funding* and its links to *risk-sharing* and the associated *value for money* from the perspective of the taxpayer. Several other definitions also refer to the notion of control by placing emphasis on the *sharing of authority*. The relative importance of these several elements will vary from one partnership to another, depending on the purposes for which it has been constituted and the needs and natures of the partners involved. In some cases, one or more of these attributes may be totally absent from particular partnerships, if this facilitates their formation or functioning.

Table 1. Definitions of public-private partnerships

Perspective/ understanding	**Definition**
Management Reform	The term "partnership", as used here, includes contractual arrangements, alliances, cooperative agreements, and collaborative activities used for policy development, program support and delivery of government programs and services (Osborne, 2000)
Risk Shifting	a) A public-private partnership [is] a cooperative venture between the public and private sectors, built on the expertise of each partner, that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards (Carr, 1998) b) [A public-private partnership] is a relationship that consists of shared and/or compatible objectives and an acknowledged distribution of specific roles and responsibilities among the participants which can be formal or informal, contractual or voluntary, between two or more parties. The implication is that there is a cooperative investment of resources and therefore joint risk-taking, sharing of authority, and benefits for all partners (Lewis, 2002)
Restructuring public service	a) An arrangement between two or more entities that enables them to work cooperatively towards shared or compatible objectives and in which there is some degree of shared authority and responsibility, joint investment of resources, shared risk taking and mutual benefit (United Kingdom HM Treasury, 1998) b) A partnership is an arrangement between two or more parties who have agreed to work cooperatively toward shared and/or compatible objectives and in which there is shared authority and responsibility; joint investment of resources; shared liability or risk-taking; and ideally, mutual benefits (European Commission, 2003) c) The term "public-private partnerships" has taken on a very broad meaning. The key element, however, is the existence of a "partnership" style approach to the provision of infrastructure as opposed to an arms length "supplier" relationship… Either each party takes responsibility for an element of the total enterprise and they work together, or both parties take joint responsibility for each element… A PPP involves a sharing of risk, responsibility and reward, and is undertaken in those circumstances when there is value for money benefit to the taxpayers (The World Bank, 2003)
Power sharing	The broad working definition of a [public-private] partnership used here is a relationship involving the sharing of power, work, support and/or information with others for the achievement of joint goals and/or mutual benefits (Kernaghan, 1993).

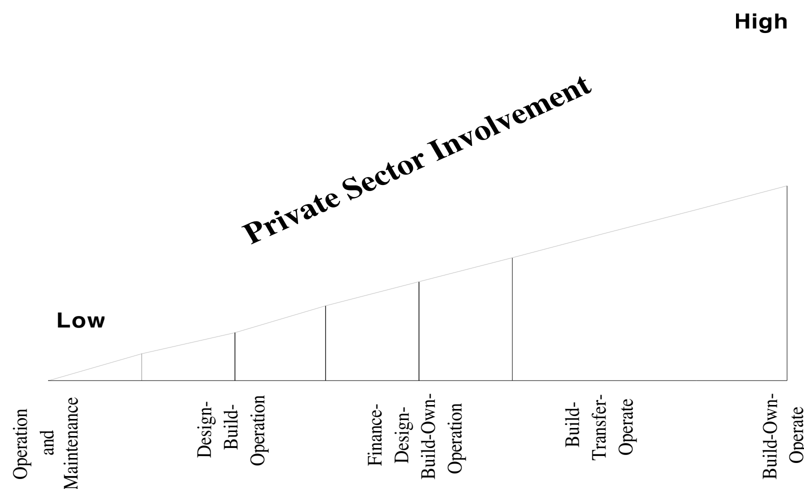
In general terms, PPPs can be defined as cooperative agreements by which public sector agencies enter into long-term contractual relationships with private sector entities for the construction or management of public sector infrastructure facilities by the private sector entity, or the provision of services (using infrastructure facilities) by the private sector entity to the community on behalf of a public sector entity. As Lewis (2002) observes, a common misconception about PPP projects is that they are about private sector financing of public

infrastructure. This is not strictly correct because financing is only one element of the whole evaluation of the project. The core of any PPP is that the public sector does not primarily buy an asset; it is rather the purchase of a service on specified terms and conditions.

3.3 Types of Public-Private Partnerships

Kernaghan (1993) has classified public-private partnerships on the basis of the amount of *power* and the amount of *expertise* required on the part of each partner to negotiate contracts. Similarly, the classification system used by the Private Finance Initiative in the UK (United Kingdom, HM Treasury, 1995) is relatively simple since it focuses on the potential *implications for taxpayers*. The most common system for ordering or classifying partnerships –and one that has been adopted extensively for infrastructure projects– is that used by The World Bank, the European Commission, and the United Nations' Development Program. This approach situates the partnership types on a continuum that reflects the *degree of risk transferred* from the public sector to the private sector. At one extreme, the public is fully responsible for all aspects of service delivery or infrastructure provision, while at the other, the private sector assumes those responsibilities.

Figure 1. Public-private partnership spectrum based on risk-sharing



The continuum between these two extremes runs from an "operation and maintenance contract" (OM), where the government contracts with a private partner to operate and maintain a publicly owned facility, with minimal risk-transfer to the private sector, to a "build-own-operate" (BOO) partnership, in which the government either transfers ownership and responsibility for an existing facility or contracts with a private partner to build, own and operate a new facility in perpetuity, assuming all the risks formerly borne by the public sector. The other partnership types are located along the risk continuum according to the functional activities in which the partnership is engaged. Thus, public-private partnerships may undertake some combination of the following functions: Design (D); Build (B); Finance (F); Operate (O); Maintain (M); Own (O); Transfer (T); Lease (L); Develop (D), and Buy (B). However, this one-dimensional perspective does not allow us to disentangle which types of contracts exhibit more public organizational characteristics. As discussed, the

fact that more risk is transferred to the private sector firm does not necessarily mean that the partnership has fewer public sector characteristics –or less attention to public interest issues. Therefore, it is important to distinguish between the three dimensions of publicness because they have different theoretical effects on how partnership types are chosen in practice.

4. A Dimensional Model for Identifying "Suitable" PPP Contracts

4.1 Contract Types

According to the dimensions of *"publicness"* previously discussed, it is worth noting that there may be an inclination to locate all types of partnerships along a straight line from left *(state ownership)* to right *(private ownership)*, with several types of PPPs in between. However, this approach would be incomplete as it ignores two further dimensions: *funding*, which in this case is "operationalized" through the amount of capital investment in a given type of PPP project; and *control*, which refers to the partner that is in charge of the *operations and maintenance* activities. Table 2 below exhibits the resulting classification concerning the most common types of contracts underlying PPPs.

Table 2. Different types of contracting-out arrangements based on three dimensions

Dimension	Internal Control	Funding	Ownership
Types	Operation and maintenance	Capital investment	Asset ownership
Public agency management non-PPP	Public	Public	Public
Service Contract outsourcing	Public/Private	Public	Public
Management Contract	Private	Public	Public
Leasing Contract	Private	Public	Public
Concession of existing network	Private	Private	Public
BOT Build, Operate and Transfer	Private	Private	Private then Public
Divestiture Privatization	Private	Private	Private

Based on the *ownership, funding* and *control* dimensions, each type of PPP is more "public" in one dimension and less "public" in another. However, according to our definition of public organization, each type of contract can be located on the *publicness* dimension. For instance, if public choice theorists are correct, then the pursuit of private interests dominates (i.e. the funding dimension effect offsets the other two) and it would become a common characteristic of PPPs *owned* and *controlled* by government but *funded* by private firms. In these circumstances, public authorities may anticipate this situation and choose a partnership type that allows them to influence –for example– local employment. It represents a much easier task with a public firm than with a private operator whose autonomy to accomplish selfish goals of top-level managers is protected by a long-term concession.

In practice, it is straightforward to consider utility companies in network industries (e.g. power, water, telecommunications) as private operators that generally deliver their services through one of the contract types in Table 2. In the next section the paper introduces two hypotheses related to private provision and discusses how the Qualitative Comparative Method introduced by Ragin (1987) enables the selection of the "dimensional mix" that best fits the institutional environment in order to determine which partnership mode is best suited to accomplish the goals of the project.

4.2 The Effect of Institutional Environment on the Choice of Contract Type: An Application to Developing Countries

In the 1990s, private participation in developing countries' infrastructure accelerated as a consequence of broad global trends toward official policies of economic liberalization and privatization (World Bank, 1998, 1999). In structuring such policies, states must decide on governance structures and the degree to which they must open closed sectors (Doh, 2000). Previous research on institutional economics and international entry mode has shown that states generally prefer to retain ownership and control over critical infrastructure sectors such as energy, water and telecommunications (Huet and Saussier, 2003; Doz and Prahalad, 1980; Wells and Gleason, 1995). These authors have acknowledged that factors external to the private firm may influence the choice of partnership form. These factors include the institutional context of the public sector (e.g. civil service rules and regulations) and the broader social context (e.g. macroeconomic situation, political stability and relative autonomy of civil society). This perspective is strongly influenced by the New Institutional Economics literature, which stresses the significance of institutions as the "rules of the game" within which organizations operate (North, 1990).

A special responsibility for government is to create the institutional infrastructure that markets require in order to work effectively. At a minimum, this institutional infrastructure includes effective laws and the institutions to implement them. If markets are to work effectively, there must be well-established and clearly defined property rights; there must be effective competition, which requires antitrust enforcement; and there must be confidence in the markets, which means that contracts must be enforced and that antifraud laws must be effective, reflecting widely accepted codes of behavior.

As developing countries have gradually liberalized their markets over the past decade, states have signaled their commitment to market reforms through trade liberalization. Governments that have entered into formal trade agreements and investment obligations can better guarantee investors a lower-risk environment (Doh, Teegen and Mundabi, 2004). Thus, private investors will be more willing to finance infrastructure projects in countries exhibiting more open-oriented trade reforms:

> **Hypothesis 1:** The extent of private *funding* of developing countries' infrastructure projects is positively associated with open-oriented reforms.

In contrast to this perspective, Wolf (1989) identified non-market factors that might affect efficient provision of services. For instance, politicians and bureaucrats are rewarded for interventionist solutions to perceived social "problems" without reference to any cost implementation. As a consequence of the "high time-discount" of political actors, interest group competition, and the relatively short electoral periods, the resulting emphasis is on current rather than future costs and benefits. Although economic development is not synonymous with institutional advancement, contracting firms in weak institutional

environments cannot rely on legal protection. Thus, private firms will limit their exposure to institutional risks by limiting their amount of *operations and maintenance* activities in the project:

> **Hypothesis 2:** The extent of private operations and maintenance activities in developing countries' infrastructure projects is positively associated with the countries' overall development.

Current research on governments' capabilities to control partnership activities and commit to a transparent and stable regulatory framework is related to the existing literature on *ownership*. That literature stresses that the incompleteness of contracts is one of the main reasons for the existence of state ownership and assumes two different approaches. The first one, the "control view", stresses the role of state ownership as a means of resolving contracting problems when the government wants firms to perform certain tasks (Hart, Shleifer, and Vishny, 1997; Rajan and Zingales, 1998). It highlights the role of incomplete contracting over enterprise inputs or outputs that may be of interest to politicians, but cannot be easily influenced by them unless the government has direct control over some key aspects of the firm. The second perspective, the "commitment view", concentrates on public enterprises as substitutes for private ones given deficiencies in the government's ability to commit to regulatory policies (Shleifer and Vishny, 1994; Boycko, Shleifer, and Vishny, 1996). 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; Levy and Spiller, 1996).

The distinction between the two views is important because they have different predictions about the impact of country characteristics on the extent of private participation in the provision of the service. In particular, the commitment view supports factors that raise the opportunity costs of public funds and make it more difficult for politicians to convince private investors that they will refrain from manipulating tax and regulatory policies to extract quasi-rents from firms. Conversely, the control view predicts that if the purpose of public *ownership* is to control some aspects of production, then the extent of government participation should decrease as the cost of the public funds needed increases. By taking into account that both perspectives are not only opposite in their predictions about ownership, but also sensitive to the states' specific capabilities and goals, the Qualitative Comparative Analysis (QCA) developed by Ragin (1987) is used to find a middle ground to bridge qualitative, "case-oriented" –small sample size– research and quantitative, "variable-oriented" –large sample– research. Case-oriented researchers, for instance, often cite general patterns that they themselves have not documented to explain case-specific phenomena. Similarly, variable-oriented researchers generally cite unobserved case-level mechanisms to explain the cross-patterns they document. As Ragin (1987) argues, if these mechanisms cannot be observed at the case level, then the variable-oriented conclusions are suspect.

The middle ground that Ragin proposes involves compromises on both sides through the use a configurational (in this case, a "mix" of dimensions') approach to cases in the analysis of cross-case patterns, and thus it tries to retain some of the holistic features of the case-study approach in the analysis of cross-case patterns. In general terms, QCA provides analytic tools –based on Boolean algebra– for conducting holistic comparison of cases as configurations and to describe their patterned similarities and differences. In this case, its concern for how context (i.e. institutional environment) structures causal connections (i.e. *control, funding* and *ownership* dimensions) is one of the key features of this configurational approach. Consider, for example, Table 3, which shows different configurations (combinations of dimensions) of conditions relevant to the degree of "publicness" among

different hypothetical PPP project types. Three attributes define the property space: 1) whether the project is publicly or privately controlled, 2) whether the project is publicly or privately funded, and 3) publicly or privately owned. There are 8 (23) possible combinations ("dimensional mixes") of these three presence/absence dichotomies, and thus eight types of cases (i.e. contracts). These "dimensional mixes" constitute the unit of analysis. In other words, the relevant question that remains is: what combinations of causal conditions are linked to the degree of "publicness" in PPP contracts?

Table 3. An example of possible configurations for different types of PPP projects using Ragin's configurational approach

Types of PPP Projects	**Dimensions Relevant to the Degree of "Publicness"**		
	Internal Control	**Funding**	**Ownership**
1	Public	Public	Public
2	Public	Public	Private
3	Public	Private	Private
4	Private	Private	Private
5	Private	Public	Private
6	Private	Private	Public
7	Private	Public	Public
8	Public	Private	Public

Once the three dimensions that define the kinds of cases (i.e. contracts) have been constructed, the next step is to test the sufficiency of causal conditions –usually through the computer program QCA[7]. According to Ragin, the summary equations that result from this program (e.g. *"publicness" = private control + public ownership*) should be viewed as part of a larger dialogue of ideas and evidence. The real test for these equations is how well they help the researcher to understand specific cases or sets of cases. Broad representations of cross-case patterns provide maps that guide and facilitate in-depth research; they are not substitutes for that type of investigation.

5. Some Concluding Thoughts

This paper has tried to locate PPPs within the more general context of government and private sector collaboration. They are a key feature of recent NPM reforms in the western world. Although some partnerships may be ex-ante of an inappropriate type, their success will also depend on how they are led, legitimized, resourced, managed and evaluated according to the institutional framework, the local circumstances and, of course, the partners themselves.

In general terms, future research will be aimed at developing more generalized macro-models of partnerships, linking them to empirical studies and considering whether and how the benefits and costs of cooperation and competition between the two sectors can be reconciled.

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[7] QCA is a DOS program distributed by the Publications Office, Institute for Policy Research, Northwestern University, Evanston, IL 60208 USA.

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