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FACING THE CHALLENGES OF WATER GOVERNANCE

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Palgrave Studies in Water Governance: Policy and Practice

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Facing the Challenges of Water Governance

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Introduction

Facing the Challenges of Water Governance: Moving from the Public Versus Private Debate to Other (At Least) Equally Important Governance Issues

Simon Porcher and Stéphane Saussier

Good water management is essential for human development, people's well-being, social inclusion, and environmental sustainability. The Sustainable Development Goals of the United Nations set forward an ambitious agenda of providing universal access to good-quality water supply and sanitation services within a financially constrained environment. However, the various peculiarities of each country regarding water governance make it difficult to identify and implement the best practices and benchmarks. Responses should be adapted to territorial specificities, in a case-by-case methodology, but at the same time, information should flow more easily and research on water governance topics should make progress and potentially shed light on inefficiencies, failures, and poor

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practices that may help to identify what are the future challenges associated with water governance and potential avenues to overcome them.

When it comes to water governance issues, the private versus public management question stays at the core of the public debate, for ideological reasons but also for practical ones; when there is a need for investments, the temptation to look for private finance is natural. It pushes to the background other issues which are at least equally important, such as the proper scale to operate water services, stakeholders' engagement, or the need for independent regulatory agencies.

In this introduction, we will first focus on the public versus private debate (Sect. 1) reminding what are the main trade-offs at stakes and what we learn from empirical studies (Sect. 2). We will then argue that empirical studies are not conclusive and review other issues which are at least equally important to face water challenges (Sect. 3).

1 The Big Question: Public Versus Private Management of Water Services

Many countries face the double challenge of growing demand and aging physical assets. This is not specific to developing countries. As noted by Lyon et al. (2018), aging infrastructure is causing water rates to soar in the United States and is driving poorer Americans to pay significant amounts of their income for water and wastewater services, and often to default. It also fosters poor quality and water contamination. Such underinvestment issues are also present in European countries like France or the United Kingdom (see Chap. 7) as well as in Japan (see Chap. 13) and many other parts in the world.

The need for infrastructure investment worldwide in the coming decades is significant and, in many countries, far beyond the government's capacity. Global infrastructure investment needs are estimated to be approximately US$50 trillion for roads, water, electricity, telecommunications, and rail in OECD countries between 2005 and 2030 (OECD 2012). Global financing needs for water infrastructure range from US$6.7 trillion by 2030 to US$22.6 trillion by 2050 (OECD 2015a).

As a consequence, there is an important role for private sector participation in funding the development of these essential services. Public financial constraints have been translated by a changing role of the government itself. Moving from its own production to delegation and externalization, the public sector has shifted its focus from addressing internal bureaucracy to managing relations with external partners, and the public sector currently favors private participation through public-private partnerships (PPPs) to seek more efficient uses of increasingly limited resources.

However, at the same time, we can observe many failed PPPs (Estache 2006), especially in the water sector (Guasch et al. 2014). These failures attest the difficult challenges that face policy makers. Infrastructure investment involves contracts that are complex and that operate under the double imperative of ensuring financial sustainability and meeting user needs and social objectives, and this type of investment is often also very exposed to public opinion and political scrutiny (Spiller 2008).

To understand better this back-and-forth motion and why this love/hate relationship is often encountered in regard to public-private relationships—the history of partnerships between the public and private sectors to provide public services goes as far back as the history of the public sector itself—let us start by defining what PPPs are and their expected advantages and drawbacks.

PPPs for Water Services

There is no single well-defined "type" of PPP but rather various types that differ depending on whether the contract is global (i.e., is bundling investment needs and the public service provision) or simple, whether payment is made upon delivery or deferred, and whether the operator is remunerated mostly based on the service operating results or, on the contrary, on its ability to meet the performance objectives that are described in the contract (Box 1.1). The "landscape" of PPPs is thus a complex one that comprises various subcategories that range from traditional public procurement contracts, user-pay PPPs (concessions), and public-budget pay

Box 1.1 PPPs in Water Services

The most common PPP type in the water sector is the concession contract in which the operator manages the service, invests in the network, and obtains financial compensation through consumer receipts. In such contractual agreements, public authorities transfer some risks (especially part of the demand risk) that are supported by private companies in exchange for greater decision rights and claims on revenues. If infrastructures pre-exist, investments are essentially maintenance costs (a "light investment concession"). If infrastructures do not pre-exist, concession contracts are usually very long-term agreements that increase their complexity.

Other contractual agreements are possible, such as a management contract in which the operator is paid a fixed fee in exchange for the obligation to perform ancillary services: for example, the operation and maintenance of water and sewage facilities, the provision of technical assistance, and the collection of charges on behalf of the public authorities. In these types of contracts, a small part of the operator's revenues may depend on performance. In management contracts, operators do not assume the risks of the cost of operation and maintenance or of financing improvements. The risk of the operator is to be able to achieve and maintain the service standards.

The following table summarizes the different forms of private sector participation in water supply and provides examples.

Table 1.1 The different forms of private sector participation

Form	Ownership	Financing	Operations	Examples
"Light" concession	Public	Public	Private	Cote d'Ivoire, France
Concession	Public	Private	Private	Used in Buenos Aires-Argentina, Jakarta
Service contract	Public	Public	Public then private	Mexico City, Santiago-Chile, Madras
Management contract	Public	Public	Private	Cartagena-Colombia, Johannesburg, Mali
Build-operate-transfer	Private then public	Private	Private	Izmit-Turkey, Mendoza-Argentina
Sale of full divestiture	Private	Private	Private	England and Wales

PPPs (availability contracts, which are most of the private finance initiatives or PFIs). Worse still, there are many possible variants within each group of PPPs. For instance, some concession contracts provide for risk-sharing mechanisms that can take the form of profit sharing above some threshold or revenue compensation in the case of underperformance. This type of risk-sharing mechanism, for example, is in place in the French city of Dijon's water management contract (Saussier and de Brux 2018). This mechanism enables risk mitigation while still benefiting from private sector efficiency but at a lower cost. As noted in Saussier and de Brux (2018), such evolutions of user-pay PPP contracts indicate the parties' acknowledgment that a significant counter-performance most often is due to exogenous factors for which the operator cannot reasonably be held responsible alone. This evolution brings user-pay PPP contracts (concession contracts) closer to availability-based contracts (public-budget pay PPPs), which creates a continuum of public-private contracts (Estache and Saussier 2014).

Although it is difficult to analyze PPPs as discrete and alternative forms of public service organization, they all constitute a somewhat partial outsourcing of activities that contribute to the realization of a public service. However, it is essential to emphasize that economic theory sees PPPs as having advantages and drawbacks that are associated not only with the outsourcing issue but also with the public-private nature of the relationship that makes these contracts so particular and much more difficult to manage than private-private relationships.

The Promise of PPPs for Water Services

A search for expertise—The first reason that is identified by the economic literature to justify outsourcing is a lack of in-house expertise. For the same reason that private companies might outsource part of their activities, public authorities see outsourcing as an alternative to the integration of a partner or the development of skills, two processes that can take a long time and generate costly irreversibility. Outsourcing is an opportunity for public authorities to focus on their "core business",

namely, the supervision of public services rather than their provision. The provision of public services can be realized at a lower cost by private operators, which are experts that benefit from economies of scale, experience, and scope. This deficit in the expertise of the public party compared with that of private operators depends on the size of the public body, as well as the complexity of the services in question.

Economies of scale—The reason that is most often advanced to justify outsourcing is the search for economies of scale. One can easily understand that the in-house provision of public services (i.e., direct public management—which is the alternative to externalization, whatever its form) does not enable the same economies of scale as PPPs. Operators that are present in several markets can realize economies of scale, which is not the case for public authorities, as they only operate in a single market, unless the optimal output level—beyond which the average costs increase—is low or the public body is sufficiently large to be able to realize economies of scale itself. Therefore, these advantages of contracting out are stronger when the value of the investments to be established is substantial (especially in the case of the construction/renovation of infrastructure). The existence of such economies of scale can also explain municipalities' wish to manage their public services within organizations for intercommunal cooperation and also why some countries push for more centralization and less fragmentation of their water services (see the case of Italy in Chap. 3, Eastern European countries in Chap. 10, and Japan in Chap. 13). Finally, because private operators usually operate at a very large scale to benefit from economies of scale, the sectors that relate to the provision of public services often suffer from high degrees of concentration. The existence of a competitive price is thus not assured.

Several studies have attempted to estimate the optimal size of a water service depending on scale economies. For example, Mizutani and Urakami (2001) found that in Japan, a water supply organization of optimal size would supply a population of approximately 766,000 people, whereas Marques and De Witte (2011) estimated that the optimal scale of the water utilities in Portugal is located between 160,000 and 180,000 inhabitants. In both cases, this size is far greater than the size of many French and Spanish water services where PPPs are widely used.

Economies of experience—Some activities allow companies to benefit from economies that result from the accumulated experience of their employees and the organizational routines that they have established by coping with and overcoming the problems that they have often encountered throughout their history. This experience effect allows significant improvements to be introduced in the processes on which outsourcing is based, and moreover, it generally leads to a reduction in operating costs.

Economies of scope—Although it can be appealing to outsource a service or the production of goods to a specialized firm that operates simultaneously in several markets and benefits from economies of scale, it can also be efficient to conclude a contract with an operator that supplies multiple different goods or services and therefore benefit from economies of scope.

The literature on the economies of scope in the water sector is relatively scarce and inconclusive. Most often, these studies conclude that there are no or very few scope economies in the water sector, even if there might be an advantage in terms of negotiation power to outsource to one operator several services (e.g., water distribution and water sewage; see Marques and De Witte 2011; Desrieux et al. 2013).

The search for incentives—In addition to the technical reasons that were previously mentioned to provide an understanding of the advantages of outsourcing, other reasons that relate more to management issues are also alluded to in the economic literature. These scholars justify the use of outsourcing because it is a situation (1) where competition can fully play its part, (2) where management incentive practices are easier to establish, and (3) where risks are more likely to be shared between the public authority and the operator.

Outsourcing and competition—When a public authority decides to outsource a public service, it must choose a partner among a certain number of potential suppliers. For example, if a public authority decides to open a project to competition by organizing a call for tenders, then outsourcing is considered to guarantee a certain level of cost control that is more difficult to reach with in-house provisions, because internal services are generally not put in competition with potential external contractors. When performed properly, the opening to competition

that is realized as part of the outsourcing process thus forces potential partners to disclose information regarding their costs by offering a price.

This is an important point, especially because it is raised systematically in the debate on PPP efficiency. With in-house provisions, it is not possible to enjoy the benefits of competition since such direct management does not compel the public body to organize competitive calls for tenders or to conduct a preliminary assessment to justify this organizational choice. In contrast, when outsourcing is the chosen solution, several operators are likely to compete in a call for tenders for a given contract. Therefore, adopting a direct management method deprives public authorities of the competitive pressures that are at play in the markets.

Incentives and management—Internal organization facilitates the control of production activities, whereas outsourcing—although it makes such control more difficult—presents the advantage of increasing the level of incentives for the operator that is in charge of supplying the goods or services. Because relationships within an organization are based on an employment contract, which establishes a relation of subordination that leaves little room for incentives (even if incentive wages can be established), these relationships do not encourage partners to be efficient to the same extent as market relations. Indeed, in the case of outsourcing, the relationship is based on a contract that can include strong incentives by describing the expected service (i.e., a higher degree of precision as to the service to be provided) and by introducing a range of incentive clauses (bonuses and penalties) that allow the operator to keep all the additional revenue that it can generate by being efficient.

Risk sharing—Finally, outsourcing can also present advantages regarding risk sharing. Outsourcing the production or the management of a service makes it possible to transfer some risks from the public party to the private party. Depending on the public procurement tool, this transfer can be focused on production risks, demand-related risks, and risks that are associated with operating costs (see Table 1.1). From this perspective, the advantage of outsourcing lies in the greater ability of operators to diversify their risks (because of their level and the poten-

tial diversity of their activities) and their expertise in managing different types of risks. Consequently, operators bear lower costs than a public entity when coping with risks.

Advantages of outsourcing the provision of services to a private partner—Aside from economic advantages, which are common to every transaction, the economic literature also identifies a range of additional reasons that justify the use of outsourcing and that are only relevant when studying the management of public services. These reasons mostly concern the difficulty of controlling and managing public organizations, as well as the risk of political interference that characterizes this difficulty. Outsourcing is then viewed as a way to reduce or eliminate the disadvantages that are specific to the in-house provision of public services.

Difficulties in controlling and managing public organizations—Organization theory has long since identified a limit that is specific to large companies and collectives: the delegation of decision-making power. Although delegating becomes indispensable when an organization increases in size and diversifies its activities, it raises the issues of incentives or the control of the decision-maker. This is a key point of agency theory (Jensen and Meckling 1976; Laffont and Tirole 1993), and this point has always received special attention in economics. When discussing company managers to whom owning shareholders delegate their decision-making power, Adam Smith already observed that "the directors of such companies, however, being the managers rather of other people's money than of their own, it cannot well be expected that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own" (Smith 1776).

Although this problem is not exclusive to public organizations, it is accentuated in their case by the differences between a public and a private organization; a public organization is more difficult to control when decisions are delegated (especially from citizens to managers). According to Laffont (2000), these particularities concern the fact that public entities generally are subjected to several controls that involve various "controllers" with objectives that are potentially in conflict or