Outsourcing And Public Sector Efficiency: How Effective Is Outsourcing In Dealing With Impure Public Goods?

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ABSTRACT:

The debate on new public management, together with the shortage of public funds, has had a considerable impact on public administration. Accordingly, many governments have searched positive impacts on the efficiency, equity and quality provision of public services through increasing competition and active participation of the private sector, considering outsourcing as the appropriate instrument to attain such endeavor. However, private involvement in public services provision is controversial. While, on the one hand it is touted as a way to increase efficiency and accountability by turning over choices to individuals in the market place, on the other hand, some argue that it has the potential to produce considerable fraud and corruption if managerial control by the public sector is weak. So, given this context, we aim to assess the private involvement in public services in efficiency terms, putting aside ideological considerations. So, after the introduction, we present a definition of public goods and we characterize their different types, with particular emphasis on “impure” public goods. Section 3, focuses on market failures together with equity considerations as the main reasons that configure the role of the public sector in providing impure public goods, as well as on the possibility of government failures. Section 4 deals with the benefits and costs of outsourcing in the public sector. Section 5 describes the most frequent forms of private sector involvement in the provision of impure public goods, as well as the advantages and disadvantages of the different options. Section 6 carries out some comments on the need for regulation. Finally, section 7 concludes.

Keywords: Contracting out, impure public goods, market/government failures, private sector involvement, public sector.

JEL codes: H42, H50, I18, I28, L33.

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1. INTRODUCTION

Since the end of the 1970s the disenchantment of the public administration has become apparent: the dominating view is that the government has changed from the provider of public goods to a tax burden for the citizens. The public administration is regarded as “bureaucratic” in the sense of too big, inefficient and unable to improve (e.g. Heclo, 1981), and composed of structures that often develop an independent logic maximizing their own survival and growth. Furthermore, government systems and government workers are often seen as too slow, too inflexible, too focused on process, and excessively indifferent to results (Gurwitt 2000). Partly owing to this disillusionment and partly due to fiscal pressures there was a wave of public sector reforms throughout the world, since the 1980s. Many reforms in this wave share some characteristics that later have been known as New Public Management (NPM).

NPM may be characterized as a move away from the standardized bureaucratic system towards greater flexibility, performance measurement, cost cutting (e.g. Hood, 1991; Boston, 1996), and more focus on results than on procedures (Minouge et al., 1998). This involves both a new philosophy of administration and a new pack of tools, which seek to enhance the efficiency of the public sector and the control that government has over it. The key hypothesis in the NPM-reform is that more market orientation in the public sector will lead to greater cost-efficiency for governments, without having negative side effects on other objectives and considerations. So, NPM have continuously supported the use of private sector management principles of planning, measurement and evaluation, the empowerment of midlevel management and the orientation of organizations to the needs of customers.

As a management philosophy, NPM look for to achieve efficiency gains by applying competition, as it is known in the private sector, to organizations of public sector, emphasizing economic and leadership principles. It addresses beneficiaries of public services

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1 This also implies the implementation of specific performance indicators used in private organizations to create a performance-based culture. These indicators when applied in the public sector can function as targets leading to better efficiency and effectiveness. As in the private sector, increasing external-related outcomes can have a deep impact on internal control mechanisms, as managers and public servants become more responsive to their duties and more conscious and dedicated to serve their public customers.
much like customers (another similarity with the private sector) and, likewise, citizens as shareholders. Accordingly, NPM seeks to alter the way in which public servants are held responsible to the public, assuming that if citizens are aware of the performance of public services they will increase the political pressure placed on elected and appointed public servants, thereby enhancing both managerial and allocative efficiency in the public sector.

A great deal of tools advocated by the NPM, and present in this wave of reforms, are forms of private involvement in the provision of public services. Among such forms we find different involvement degrees from the complete divestiture of former public services to the outsourcing of specific public services by private firms and a particular policy instrument known as Public-Private sector Partnership (PPP)\(^2\). Accordingly, an important policy-question resulting from the NPM debate is in what extent some of the so-called public goods can be better supplied by private providers, and if so, under what conditions.

Given the above considerations, we will analyze the involvement of the private sector in providing public goods and services. The remainder of this chapter is as follows. In section 2 we’ll make a short outline of what “public goods” are and the problems involved in their public production and provision, distinguishing their different types and emphasizing some examples of “impure” public goods. Section 3, focuses on market failures together with equity considerations, as the main reasons that configure the role of the public sector in providing impure public goods, as well as on the possibility of government failures. Section 4 discusses the ‘make’ versus ‘contracting out’ decisions, highlighting benefits and costs of outsourcing in the public sector. Section 5 describes the most frequent forms of private sector involvement in the provision of public goods, as well as the advantages and disadvantages of the different options. Section 6 carries out some comments on the need of regulation and the requirements needed in order to assure an effective regulatory framework. Finally, the paper closes with some conclusions for discussion and future research.

\(^2\) For a characterization of PPPs, and an application to the infrastructures sector in developing countries, see Pessoa (2008). For a different point of view see Savas (2005).
2. **Public Goods vs. Private Goods**

According to public economics literature, we can distinguish between public goods and private goods. In efficiency terms, the distinction between public goods and private goods is based on two characteristics — rivalry in consumption and excludability — rather than in the nature of the agent that provides for them. However, those characteristics are not of an absolute kind. Depending upon the degree of each characteristic, goods and services can thus be classified from the pure public good on one extreme to a pure private good on the other.

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<thead>
<tr>
<th>Characteristics</th>
<th>Rival</th>
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<tr>
<td><strong>Excludable</strong></td>
<td>Pure Private Goods</td>
<td>Exclusion would cause inefficiency Ex: highway</td>
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<tr>
<td><strong>Not excludable</strong></td>
<td>“Tragedy of the commons”</td>
<td>“Pure” Public Goods</td>
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As is apparent in table 1, a “pure” public good is a scientific term used to describe a hypothetical good that is non-rival in consumption and, simultaneously, has a zero degree of exclusion. In the real economy, pure public goods don’t exist. The goods that are nearer this concept are Defense and Administration of Justice. By contrast, a pure private good is a supposed good whose benefits are completely rival in consumption and which has simultaneously a perfect degree of exclusion.

Economics teaches that the pricing mechanism of the market secures an optimal allocation of resources, if certain conditions are met. For private goods, these conditions are satisfied reasonably well over wide areas in the market economy. In these areas, the government normally does not have to get itself involved with matters of resource allocation. On the other hand, there is a wide consensus that the main economic role of government is providing “pure” public goods.

But, in practice, the government does not limit its action to “pure” public goods. The bundle of goods and services provided by the public sector is more varied. In fact, goods and

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3 Although the notion of public goods has a long tradition in economics, going back to Marshall, Pigou and Wicksell, it was Paul Samuelson (1954) that first characterized and systematized the concept of public goods and the externalities related to them.

4 Usually, the degree to which a good is excludable is the extent to which the owner of the good can charge a fee for its use.
services are supplied by the public sector because different reasons. On the one hand, government offers “pure” public goods, because if it left this function to the private sector there would be an under-production or no production at all – despite the fact that a significant demand exists. Here the reason is the fact that private investors will not be forthcoming because there is no way, or there is only an insufficient way in which they will be able to appropriate the returns on the investment in the provision of such goods and services. But there are also goods that are provided by political decision, and not because of its non-rivalry and no excludability. These goods could in theory be produced by the private sector although in practice they often are not.

In fact, as is apparent in table 1 there is a wide variety of intermediate areas between two extreme cases in relation to various degrees of non-rivalry and exclusion. A good may be rival and not excludable as is the case known by the “Tragedy of the commons”. The classic example of such a type of goods is the common land shared by peasants during the pre-capitalistic era. The cost of one peasant choosing to graze an additional cow on the commons is shared by all of the peasants, but solely one peasant captures the benefit, with an inefficiently high level of grazing as the main result and a potential devastation of the common land.

On the other hand, a good may by non-rival and excludable. For instance, if a road is not congested one car may utilize it with no loss of benefit for other cars. However a tollbooth may exclude traffic from such road unless payment is made. Likewise, access to a swimming pool has the potential of exclusion, but below capacity limits each person admitted may consume services without subtracting from the benefits of others. Here the market could be applied, but the existence of at least limited non-rivalry indicates that exclusion would cause inefficiency in the sense that one individual could be made better off by the consumption of the good without fully denying consumption to another.

So, although theoretically an unambiguous line can be drawn between the two types of goods (private goods provided for adequately by the market and public goods satisfied through the government action), in practice we need to consider situations where government corrective action is required to secure an allocation of resources that is in line with consumer preferences. Certain goods are satisfied by the market, subject to the exclusion principle, within the limits of effective demands. But, if they are considered so meritorious that their satisfaction ought to be provided for through the government over and
above what is supplied by the market and paid for by private buyers, they become a sort of “public” goods.

This second type of goods provided by public entities is usually referred to as merit goods, whose typical examples include such services as free education, free health services, subsidized low-cost housing, etc\(^5\). Obviously, the satisfaction of merit goods cannot be explained in the same terms as that of “pure” public goods. The difference is essentially one of degree, but this distinction remains of fundamental importance.

Although both are two public goods in the sense that the government provides them, different principles are applied. Pure public goods in general constitute a special problem caused by market failures, but the provision of merit goods, because it involves interference with consumer preferences, falls within the scope of consumer autonomy, as private goods are satisfied. Public provision for free educational or for free health services are typical cases in point. Such services are of direct benefit to the particular pupils or residents, but apart from this, everybody enjoys from living in a more educated or healthier community. Thus, goods that come into view of society as merit goods may include substantial positive externalities.

But there is another type of goods and services that we must refer to. This is the case of goods and services that are more or less private (in the sense of excludable, appropriable) in nature but their provision and fair distribution is viewed as essential to public interest. They are associated to capital-intensive projects and they have significant ongoing maintenance requirements. As the words indicate “public utilities” such as water supply, gas, and electricity fit this last category of goods probably best, but there are plenty of other examples, like telephone network services, certain modes of transport such as rail, etc. In spite of not being generally named as merit goods, usually the government has had a role to play in the provision and implementation of these goods and services.

As a consequence, as shown in Figure 1, both the private sector and the government have an overlapping zone from which some goods are provided to the general population. We may call relevant goods provided in this area as ‘impure public goods’. Most public sector reforms have occurred in the set of activities that deal with this type of goods. We argue that outsourcing must be handled with care if it deals with goods and services included in that overlapping zone.

\(^5\) See Musgrave (1959, pp. 13-14).
The above considerations were motivated by the search of efficiency. But there is another reason why the distinction between private and public goods using two characteristics is not of an absolute kind: the need of equity. Looking at equity, a society might be interested in correcting the final allocation of goods and services as it closely depends on the initial distribution of wealth. Therefore the government might want to correct these inequities by a policy which directly benefits the poorer part of the population, e.g. providing services at a low cost or for free to the poorest part of society.

Figure 2 clarifies the basic nature of goods in whose provision government is involved, by using two criteria: efficiency and equity. Efficiency is taken on the horizontal axis while equity corresponds to the vertical axis. It is apparent that goods of type B, usually classified as merit goods (v. g., education and health), would be located in the intermediate position, between pure public goods (type A), which are provided by the government mainly because of market failures, and more rival goods, like telecommunications (type C), whereas the provision by the government cannot be exclusively justified in efficiency terms.

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6 Obviously, this classification of goods and services (types A, B and C) has practical purposes in the context of this chapter.
It is, however, quite arbitrary to draw the frontier between “pure” public goods and merit goods, as well as to trace the boundary between merit goods and type C goods, because that depends on value judgments. Consequently, the amount of goods provided for by the government is unclear in a political process influenced by tradition, history and other influences, which entail specific social values. For instance, while the noninterventionist tradition that prevails in the US usually claims that merit goods and public utilities must be provided for, to a significant amount, by the private sector, the prevalence of social values in the North European Countries tends to extend the desirable field of merit goods.

Goods and services of type C deserve some additional considerations. All type C goods include natural monopoly characteristics arising from persistent economies of scale and scope. These characteristics mean that competition is unlikely to develop, or if it develops, it will be uneconomic because of the duplication of assets. Although technological advances, notably in telecommunications, have reduced some of the natural monopoly characteristics in utilities, permitting economic competition in certain areas of service delivery, nevertheless each one of the utilities retains some natural monopoly features. As a consequence, privatization of these industries, in whole or in part, threatens the introduction of private-sector monopolies that will exploit their economic power in the market place, leading to supernormal profits and consequently reduced consumer welfare. Accordingly, after
privatization consumers may suffer from both no or limited choice of goods and services and face monopoly prices.

It is well established in the economics profession that the (Pareto) efficient amount of output in an industry occurs where price equals marginal cost. However, a monopolist produces where marginal revenue equals marginal cost and thus produces too little output. It would seem that regulating a monopoly to eliminate the inefficiency is pretty easy — all the regulator has to do is to set price equal to marginal cost, and profit maximization will do the rest. But in practice, this analysis leaves out one important aspect of the problem: at such a price, the monopolist would make negative profits.

Figure 3. A natural monopoly

An example of this is shown in Figure 3. Here the minimum point of the average cost (AC) curve is to the right of the demand curve, and the intersection of demand and marginal cost (MC) lies below the average cost curve. If a natural monopolist operates where price equals marginal cost, then it will produce an efficient level of output, \( y_{MC} \). But in spite of being efficient the level of output is not profitable. If a regulator sets this level of output, the monopolist would prefer to go out of business because it will be unable to cover its costs. If it is required to produce an output where price equals average cost, \( y_{AC} \), then it will cover its costs, but it will produce too little output relative to the efficient amount.
This kind of situation often arises with public utilities. For example, in an electricity company the technology involves very large fixed costs — creating and maintaining the electricity delivery wires — and a very small marginal cost to providing extra units of electricity — once the wires are laid, it costs very little to drive more electricity down the wire. Similarly, a local telephone company involves very large fixed costs for providing the wires and switching network, while the marginal costs of an extra unit of telephone service is very low. When there are large fixed costs and small marginal costs, one can easily get the kind of situation described in Figure 3. Such a situation is referred to as a natural monopoly.

If allowing a natural monopolist to set the monopoly price is undesirable due to the Pareto inefficiency, and since forcing the natural monopoly to produce at the competitive price is infeasible due to negative profits, what is the right way? Different countries have adopted different approaches. In some countries the government provides the telephone service while in others private firms, which are regulated by the government, provide it. Both approaches have their advantages and disadvantages.

For example, let us consider the case of government regulation of a natural monopoly. If the regulated firm is to require no subsidy, it must make nonnegative profits, which means it must operate on or above the average cost curve. If it is to provide service to all who are willing to pay for it, it must also operate on the demand curve. Thus the natural operating position for a regulated firm is a point like \((P_{AC}, Y_{AC})\) in Figure 3. Here the firm is selling its product at the average cost of production, so it covers its costs, but it is producing too little output relative to the efficient level of output.

Government regulators set the prices that the public utility is allowed to charge. Ideally these prices are supposed to be prices that just allow the firm to break even — that is, to produce at a point where price equals average costs. The problem facing the regulators is to determine just what the true costs of the firm are. Usually there is a public utility commission that investigates the costs of the monopoly in an attempt to determine the true average cost and then to set a price that will cover costs.

To end this section some conclusions are mandatory: first, it is obvious that in practice the provision of goods and services faces a diversity of situations, far from the simplistic dichotomy between private goods and public goods; second, given the diversity of situations, the solutions to inefficiencies are not simple; third, as the case of natural monopolies shows,
even after implementing a reform that relies on higher involvement with the private sector, government must retain a role to play.

3. Market Failures and Equity Considerations vs. Government Failures

a) The role of the market

It is almost consensually accepted that the dynamic function of markets in improving efficiency and innovation is the main factor behind the superiority of decentralized economies as compared to the centrally directed economies. The main reason is that the market system translates consumer preferences into market demand in a discernible and efficient way. The type and amount of goods and services being produced depends on the utility they offer to consumers, as compared to the utility that consumers obtain from other goods and services that they could purchase for the same cost. On the supply side, there is the assumption that when a product is produced inefficiently and therefore too costly, competitors that are more efficient can and will (depending on the entry conditions) supply the product at lower prices, and the inefficient firm will either run to produce more efficiently, or in the end it will be driven out of business. In a similar approach, the quality of goods and services is likely to be protected by the market-mechanism. If a business fails to maintain and increase the quality of its products and services, competitors with a better price-quality ratio will force the business to keep up and improve the quality of its products; otherwise it will lose customers.

b) Market failures, equity and regulation

But in spite of the above-mentioned benefits of the market, there are cases when market forces cannot secure optimal results, and so we are faced with the problem of how the government can interfere to obtain a more efficient resource allocation. The role of the government can be described as consisting of the following:

• *Overcoming market failures*. Where needs are likely to go unmet because of market failure, there is a role for the government to step in. For goods of type A and type B, market failure means essentially an under provision, or no provision at all. This can
occur when the social benefits of services exceed the private benefits with a resulting sub-optimal provision, which normally calls for government provision. As one example, people typically contract sexually-transmitted diseases (STDs) accidentally. By bearing some of the cost of detecting and treating STDs, governments confer benefits not just on the individuals treated, but also on those who may otherwise be at risk of infection. The same can be told about vaccination programs and other forms of diseases control. Another example of market failure in developing countries is the education of girls. Many families fail to see any benefit from sending girls to school or are averse to give up the household labor, or income, they make available. However, as a social investment, girls’ education is crucial because it is associated with improved opportunities for them to live longer, richer, and more rewarding lives — and with better health and social outcomes for their children. Thus, by encouraging the education of girls, through educational scholarships or consciousness-raising campaigns, governments can benefit both girls themselves as well as their families and communities. This example may be extended to the health sector, as the welfare of infants depends heavily on the health status of the mother. For goods of type C market failures mainly relates to the existence of co-ordination malfunctions induced by scale economies. There is the case of external economies that arise when a new highway is built or as the size of a telecommunication service increases. The market failure is that at a given point in time, current prices may not convey the information about prospective expansion that is relevant to attain a lower cost of production (Scitovsky, 1954; Chenery, 1960).7

• **Equity.** To provide goods B (health care or education) and C in rural areas tends to be particularly difficult, and generally unprofitable from a private viewpoint. Not only rural populations are often small or dispersed but also private providers are often scarce or nonexistent.8 The public sector is best placed to provide a safety net for citizens who cannot pay market prices for health or education. However, this can be achieved by providing services directly or by creating incentives for the private sector to carry out the task.

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7 Additionally, the government must deal with other examples of market failures, such as the problem of adverse selection and moral hazard, associated to the privately run insurance schemes, which leads to an unequal coverage of health care services. Private insurers will only include good risks in their schemes. This behavior makes risk pooling among a society difficult and leaves the bad risks to the public sector.

8 Government clearly has a role providing services here, but it can also act in other ways. It can place obligations on private providers to provide broader access when they occupy a monopoly position or consider subsidizing access to private systems for disadvantaged groups.
• **Regulation. Implementing appropriate regulations to ensure quality and controlling costs.** Consumers will usually act as a force for quality, but only if they have sufficient information. Governments can do something as important providers of this information. The existence of asymmetrical information is overwhelming in the health sector. When drugs are sold in the open market, the manufacturer is usually better informed on the efficiency and safety of the drug than the purchaser. To address the described market failures the government usually reacts doing something to minimize the effects of asymmetric information, e.g. the official registration of health professionals and official recognition of drug quality. Quite frequently, governments act to put a ceiling on the fees private sector providers can charge. This is controversial, as it causes a market distortion, and should be done with care. However, restrictions may be necessary where there is little competition, no parallel public provision, or where consumers are relatively poorly informed about their needs and the quality of the provision. Pharmaceutical cost is an area where the potential for excess profits is high, and control may be necessary, but in goods of type C the problem is also real.

c) **Government failures**

The above reflections on the role of government have been mainly derived from theoretical considerations. In practice, however, some of the aforementioned points have to be equated with the possibility of government failures. Some government failures result from the absence of the corrective function of prices. For private goods, prices not only reflect relative supply and demand, but also signal interesting profit opportunities, best practice cost, quality and delivery performance, etc. A careful analysis of information from prices is therefore important. However, there are two basic conditions for the ‘disciplining’ action of prices to function well: transparent and condensed prices and a high degree of competition. The public sector has no one of these conditions.

For public organizations, prices usually do not contain the correct and needed information. Since these prices are a result of political regulation, they only partially reflect or do not convey at all information on scarcity, utility, quality, and efficiency. Obviously there is a cost price for producing public goods and services. However, the resources for the production of public goods and services come from taxes that are collected largely independently from what they are used for. The allocation of these resources is a matter of policy-decisions and the price that consumers of public goods and services pay is often only
slightly related to the actual costs. Furthermore competition is nonexistent, not only owing to technical reasons, such as the scale of production or the need of universal access, but mainly because of an explicit choice rendering in some cases a “governmental monopoly” structure as the most efficient delivery provision.

Government failures take place both at the supply-side and at the demand-side of public goods and services. On the demand side it will be difficult or onerous to determine what the real demand for these goods and services is. When calculated, it is generally determined by estimations of the needs for public goods and services, in combination with certain political values and equity considerations. But, unfortunately it is neither easy nor quick to translate these estimations into actual policy implementation. Since there is neither competition nor a price mechanism as a disciplining characteristic, on the supply side the production will be determined by the allocation of budgets, and so there will be little external incentive to lower costs, improve quality, or to satisfy an increasing demand.\(^9\)

There are several ways to deal with these aspects of public failure, but recent public sector reforms rely almost exclusively on two. The first mode is by privatizing certain public services forcing them to operate in a market-like way, in reaction to the perception that government agencies failed constantly to provide high quality services. For example, Kansas privatized its entire child welfare system, in part in response to a widespread sense that under the publicly managed system, children were remaining in foster care too long after removal from their families (Gurwitt 2000).

But this first way has been prominent in the utilities (electricity, telecommunications, water, etc.) sector. However, to privatize completely these services requires the setting up of a sophisticated regulatory framework with wide-ranging functions: avoiding private monopolies,\(^10\) enabling “fair” competition between the incumbent and new entrants, regulating prices and access provision, securing certain national strategic guarantees, etc. The difficulties in liberalizing and privatizing public utilities in most European countries – e.g., electricity, telecommunications – illustrate well the fact that a simple transfer from public to private provision is generally speaking for an insufficient guarantee for increasing efficiency and quality on a long term sustainable basis.

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\(^9\) Of course, there is some intra-public-sector competition. But this competition is about a bigger share of the budget, and so it is generally more related to internal politics than to a perceived increase in demand for goods and services.

\(^10\) As was theoretically argued above, in section 2.
The other way consists of segmenting functions of the public services, distinguishing between the ones that by their own characteristics must be dependent on the public sector from the others that can be contracted to the private sector. In other words, public bodies need to assess their functions according to their relevance to their core values providing for them, and contract out all the others\textsuperscript{11}. The remainder of this chapter deals with this second way of solving public failures.

4. OUTSOURCING IN PUBLIC SERVICES

The outsourcing of activities formerly done by the public sector was popularized by the discussion around the NPM. For the proponents of NPM, outsourcing of public services is typically viewed as a way to increase accountability by turning over choices to individuals in the market place and, consequently, as a means of maximizing economic efficiency — reducing government costs while increasing the scope and quality of service delivery by transferring (or “returning”) government functions to the private sector (e.g., Butler, 1985; Donahue, 1989). But on the other hand, some scholars argue that it has the potential to produce considerable fraud and corruption, if managerial control by the public sector is weak\textsuperscript{12}.

However, the risks that outsourcing pose to clients and governments need to be equated with the advantages of promoting innovation through outsourcing. Given that outsourcing of services is more complicated than the purchase of goods, the proper balance between outsourcing and maintaining direct control over program operations (Blank 1999) depends on the nature of the service being provided, and on a net benefit to consumers. So, with these considerations in mind, governmental agencies, as well as private companies, need to consider the costs and benefits of contracting out versus in-house provision. Let’s begin with the potential benefits of outsourcing.

\textsuperscript{11} See Prahalad and Hamel (1990) for a managerial perspective on this subject.

\textsuperscript{12} Additionally, there is a fear that outsourcing results in diminishing citizens’ legal rights, as “government sovereignty is extended to private contractors” (Wiesniewski, 1991, p. 378), and in serious problems with accountability. For example, access can be denied and complaints can be ignored. As we’ll see in next sections, regulation can provide some protections against this situation.
a) Benefits

The strategic management literature suggests that outsourcing can contribute to competitive (or collaborative) advantages in three different ways (Bovaird, 2004): first, providing economies of scale in the provision of certain services; second, providing economies of scope or the ability to exploit more fully the complementary capabilities and competences which exist in the partner organization(s); third, providing opportunities for mutual learning between partners which may be intended to lead to a long-term dynamic process or interchange.

If competition in the private sector exists, we can expect the following benefits:

- **Improving quality and customer service.** Public services are recognized the world over for low-standards of customer care. In recent years, many business sectors have been revolutionized by a new customer-focus. Private providers must develop their businesses and, in most situations, this involves retaining existing customers as well as attracting new ones. For this purpose they need to be highly innovative and also to learn from their competitors, thus aiding the transmission of best practice. One expects that outsourcing in public services can benefit from similar gains.

- **Investing in research and development.** Organizations have great difficulty in learning, and they seldom question the underlying basis of their own problems. Especially in the public sector, organizations are often depicted as lacking in innovation and intrinsically resistant to change, stressing conformity instead of creativity, defending the *status quo* instead of striving for change and improvement. The involvement of the private sector can be a stimulus to carry out research and to develop new techniques.

- **Improving management standards.** Some observers argue that because in the private sector the staff is usually better paid and motivated, the management standards are generally higher and so business can transfer important skills for a great lot of sectors including the ones of health and education (Van Slyke, 2003).

- **Developing new services and market-based systems of rationing.** The private sector has an essential role where demand is expanding or the patterns of demand are changing. When these changes happen, it is an increasingly important provider of higher education, for example. Skills development and professional development, for instance, can be

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13 Nevertheless, the government must retain an important role in financing basic research that can produce important building blocks for subsequent applications that may improve well-being and for which short-run commercial gains are not apparent.
funded privately, either directly at the level of the firm or through reimbursement mechanisms. It is inevitable that some costly procedures, perhaps of limited efficacy, cannot be funded universally. Here the association between the public sector and the private sector can be very useful: The government is able to set the context of what is considered an essential service available for all. The private sector can control access to other services using the price mechanism.

- **Filling the ‘capability gap’.** Another reason for outsourcing is the need to fill a ‘capability gap’, that is, contracting out functions where ‘in-house’ capacity is limited. This may be particularly required for capabilities that are highly specialized as the formation of teachers or the management of schools. With this regard, it is usually argued that contracting-out allows savings on the long-term costs of hiring specialized experts, who may be required only in very specific periods of time being under-occupied for the rest of the time (Sanger, 2001).

**b) Reducing costs**

Alongside the above attributed benefits, the cost side of contracting out should not be overlooked. Proponents of outsourcing in public services argue that contracting out is synonymous with reducing the size and effects of government. This theory suggests that contracting out saves money as the positive pressures of competition force organizations to find ways to work more efficiently. It is basically this idea that has motivated State and local governments to turn to private providers for a wide range of services, from routine matters such as road maintenance and garbage removal to sensitive undertakings such as fire protection and the operation of correction facilities (Sclar 2000).

The positive effects of competition are thought to hold true for competition broadly, not only for competition by the private sector or by for-profit corporations. In fact, what matters most is the extent of competition rather than simply whether the public or private sector is the provider (Kettl 2000; Donahue 1989; Osborne and Gaebler 1992). So, the above argument is not valid if the provider is a monopolist, and so the decision about outsourcing must be based on a more pragmatic approach: comparing the costs of in house production with the costs of outsourcing the service provision.

Even if we assume the existence of effective competition and well-functioning markets, efficiency calls for that the government must be a smart buyer, a skilled purchasing agent,
and a sophisticated examiner of the goods and services it purchases from the private sector. All of this is not for free. Although the policymakers tend to consider only the production costs, there are many other costs that need to be accounted for.

First, contracting out will increase transaction costs, including both contracting and monitoring costs. As Williamson (1979) argues, given the governance structure or institutional context within which governments transactions are negotiated and executed, the contracts with program providers are likely to be complex rather than simple. In such environments, the transaction costs of designing, monitoring and enforcing complex contracts are very likely to be high. In the light of this, governments must be wary of getting caught up with outsourcing processes that compromise the government’s ability to secure and protect the public interest in the long term.

Second, the costs related to the loss of monopsony purchasing power and the social costs arising from equity problems (Robinson, 1990; von Otter and Saltman, 1992) could also be significant. But, these direct costs are not the only ones that must be controlled in the public services provision. In this specific sector, contracting-out requires maintaining minimum levels of qualified staff in-house in order to specify employment terms clearly and in a way that fits the specific purposes of the activity, or to correct the service provided externally in the event of provider failure.

Hence, in the costs point of view contracting out is justified only when one can expect to lower the sum of production costs and the costs of managing the relationship between government and the provider of goods and services (Globerman and Vining, 1996). Contracting has a potential for lowering the first set of costs, but these savings could be more than offset by increases in governance and transaction costs. Where the complexity of the task is high, contestability or market competition is low, and asset specificity — and thus investment risk — is high, governance cost could prove to be tragically high for governments.

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14 See Coase (1960) for the economic framework in the “make vs. buy” decisions, and Donahue (1989) for its practical applications.
15 As argued by Van Slyke (2003), outsourcing supporters seldom acknowledge that contracting out leads to additional public management costs such as developing program performance measures and evaluation tools, developing and maintaining management capacity to monitor and oversee contractors, and so on.
16 In addition, some other impacts should be taken into account, too. As Mills (1995) argues, the introduction of contracts may both lead to a fragmentation or lack of co-ordination within the broader public service system, and could have an impact on staff resources with a drain of key personnel to the for-profit providers.
Because purchase of services is more complicated than acquisition of goods, the former is more frequent than the latter. Of course, there are regional variations: in the USA outsourcing is more generalized in public services than in Europe. In the USA it is used for all the types of services: direct services, support services, and services delivered to third-party clients. Local governments outsource direct services such as solid-waste collection, street repair, street cleaning, snow removal, and gardens maintenance. The average American city contracts out almost a quarter of its common municipal services to the private sector. The average American state contracts out 14 percent of its activities, including the operation of some prisons.  

**c) Final assessment**

Research on the quality of outsourcing in public services is very limited, but, like that on cost savings, it appears to give mixed results. A number of experts argue that the different sectors will have different relative strengths, depending on the primary goals of services (Osborne and Gaebler, 1992). The empirical evidence, limited though it is, suggests that the quality of services contracted out might generally be the same or somewhat higher than when these services are provided by the public sector.

With a constant quality, if outsourcing is done in the right fashion, it enables governmental agencies to benefit from the combined force of specialization and competition, and therefore to reduce their costs substantially. The savings provided by adopting outsourcing, seem in some cases significant. Overall, it has been estimated that the benefits of competitive contracting out may allow reductions in costs by as much as 10-20 percent, at the same time as constant quality is maintained.

There has been a lot of experience with government contracting out social service provision to private firms, and there is an extensive literature that examines the serious problems with doing so (Miller, 2001; Wisniewski, 1991). Looking at the private sector in general, and based on the above and on other references (Berman, 1997; Blank, 1999; de Bettignies and

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17 See Savas (2005) and the references therein.
18 However, some experts note that these analyses may be somewhat biased in favor of the private sector because public reform often occurs only when public services are particularly ineffective, providing a point of comparison that might not be typical of public-sector provision. The results of several research efforts reflect this complicated picture of service quality.
Ross, 2004; USGAO 1997; Eggers and Ng 1993; Osborne and Gaebler 1992), we can summarize the strengths and weaknesses of contracting out public services (table 2).

### Table 2. Pros and cons of contracting out

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
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<tr>
<td>Reducing costs for the same level of quality</td>
<td>• Private providers respond to the population’s willingness to pay for public services. As a result, they will serve those groups in the population who are most willing to pay, such as affluent urban residents. The result will be increased inequity in access and use of public services.</td>
</tr>
<tr>
<td>Filling the “capabilities gap”</td>
<td>• Because of lower willingness to pay, private providers will undersupply socially desirable services, such as immunizations and personal preventive care. This will worsen allocative efficiency in the corresponding sector.</td>
</tr>
<tr>
<td>The replacement of direct, hierarchical management structure with contractual relationships between purchasers and providers, which will increase: Not only the transparency of prices But also competition, Which in turn will lead to a gain in efficiency.</td>
<td>• Driven by the profit motive, and because they have significant control over demand, private providers will take advantage of clients by supplying more than is required. This is particularly significant in health care services. This is inefficient and may result in health-weakening actions.</td>
</tr>
<tr>
<td></td>
<td>• Private providers can also take advantage of clients by providing low-quality services, which may result in welfare losses.</td>
</tr>
<tr>
<td></td>
<td>The actual effect of these four major worries is as greater as there is lack of competition.</td>
</tr>
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As is apparent from the analysis of table 2, several factors come into play in reaching efficient decisions. Factors like the need to fill a “capability gap” or to reduce costs would advise the contracting out of some functions. If this is the case, public bodies face the need of, at least, maintaining quality constant. Such decisions should be based on the identification of the agency’s core functions and consideration of the costs and benefits of contracting out versus in-house provision. This means that outsourcing in public services may not have the result of creating what has been termed the “hollow state” (Bovaird, 2004). A ‘hollow state’ is one having the double sin of low capacity and weak legitimacy — the latter resulting from, or worsened by, the shrinkage of the governmental core functions.

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20 Many other concerns have been highlighted along time. McKean and Browning (1975) discuss how and why “overlooking any relevant objectives could lead to poor choices”; Grizzle (1985) examines the serious attention that needs to be given to selecting output measures in terms of multiple criteria: their relevance, validity, reliability, accuracy, comparability, and cost.

21 The above considerations about the ‘make vs. contracting-out decision’ in the provision of public goods were stylized without considering the level of development of the countries where decisions are taken. However, in a developing country context there are other additional problems arising from asymmetry of information. Many private providers that deal with the Governments of developing countries come from more developed countries with more experience of consumer preferences (Pessoa, 2008).
The main reasons in opposition to outsourcing, and more generally to the private sector involvement, can be minimized if there is a competent regulation. However the corrective effect of regulation also depends on the specific form of private sector involvement. So in the next two sections we’ll deal with these issues, beginning with a review of the typical forms of private sector involvement in the public sector and after that, we’ll make some considerations about the need of regulation.

5. **Forms of Private Sector Involvement in Public Services**

As highlighted in the previous section, the provision of public services has undergone major changes in the last two decades with many developed and developing countries choosing to move away from the traditional public sector model of service provision and to introduce private sector participation. The involvement of the private sector in public services has followed, in general, six basic forms ranging from short-term service contracts to divestiture.

- **Short term service contracts.** In this option, specific tasks, usually everyday maintenance jobs, are contracted to the private sector, but overall services management remains within the public sector. This type of contracts has been implemented in many countries with good records of success and is often seen as a first step towards a more definitive collaboration. In order to define the compensation to the private sector partner, two types of contract are frequent. In a quantity-based maintenance contract, the remuneration of the contractor is based on unit prices defined in the contract and the quantities are measured on site. The other type — performance-based maintenance contract — is derived from the previous type of arrangement, by shifting the focus from administration (maintenance activities and resources) to certain performance conditions valued by the users. In this case, the payment is based on a fee directly stated in the agreement and linked to performance indicators.

- **Management contract.** A management contract is an arrangement by which a private company is entrusted with various types of tasks relating to the organization and maintenance operations, usually performed by the public authority. This type of contract involves the payment of a fee to the private company. Usually, the function of the private firm is to respond to day-to-day routine maintenance needs by contracting private companies, on behalf of the public entity.
• **Lease.** In this form, a private company rents the assets of a utility, and maintains and operates them, in return for the right to revenues.

• **Greenfield projects.** In this option, very usual in public works, the private sector develops, finances and operates bulk facilities. Under a BOT (Build-Operate-Transfer) the responsibility of the concessionaire is not limited to the operation and maintenance of the infrastructure, but it also includes a component of initial construction, upgrading or major road rehabilitation. Massive investment and consequent mobilization of private funding sources are therefore required from this company, which is to be repaid from the revenue collected from service users (usually tolls). The BOT arrangement stresses the responsibility of the private entity during construction and operation of the infrastructure and the transfer of the assets to the public entity at the end of the operation period. The high initial investment required from the private sector and the consequent long concession period turn the distribution of risk between the parties into a key element of success in such schemes.\(^{22}\)

• **Concession.** In a concession a public entity owns the assets, but it contracts with the private sector for operations, maintenance and investment. For instance, a road concession is an arrangement under which, the owner of the road, delegates to a private entity (concessionaire) the responsibility for providing and maintaining a specified level of service to road users in exchange for the right to collect revenue from those users. Besides the issues inherent in a concession agreement, an operation and maintenance concession is similar in scope and approach to what is required and negotiated in a typical operation and maintenance agreement between private parties under a BOT-type arrangement. A concession is more typical for goods of Type C, but there are other cases where such an option is applied to goods and services of type A and B: for instance in delivering educational services. This was the case of the city of Bogotá, Colombia, in 1999, which launched an educational program without precedent in the history of the country. The program, called Concession Schools, consisted of public education in 25 schools provided by the private sector for a period of 15 years. The public sector provided the infrastructure, selected the students (from income strata 1 and 2), and paid a pre-agreed sum per full-time student per year (approximately $1,200,000 Colombian pesos, according to Villa and Duarte (2004))\(^{23}\).

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\(^{22}\) Many variations on this type of contract have been implemented with a consequently growing number of acronyms used to label them (BOOT, BOO, BTO, DBO — Design-build-operate).

\(^{23}\) For details and an assessment of the Colombian Concession program, see Rodriguez (2005).
• **Divestiture**: an asset or public enterprise is either partially / totally sold, or shut down. Where state-owned enterprises are abundant, the word “denationalization” is frequently used instead of divestiture.

Table 3 shows some illustrative examples and the advantages and drawbacks of the different options.

**Table 3. Pros and cons of the different private involvement options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Typical duration</th>
<th>Examples</th>
<th>Pros</th>
<th>Cons</th>
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<td>Service contract</td>
<td>6 months to 2 years</td>
<td>Several contracts in the water sector of Mexico City: i) consumer census, mapping the network, metering; ii) regularization of billing; iii) loss detection and reduction.</td>
<td>Can inject good technical expertise</td>
<td>Unlikely to greatly improve performance where overall management is weak</td>
</tr>
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<td>Management contract</td>
<td>3-5 years</td>
<td>Waste collection in: Caracas, Seoul, Bangkok, Jakarta, Lagos</td>
<td>Gains in managerial efficiency</td>
<td>Gains can be difficult to enforce; public entity remains responsible for investment</td>
</tr>
<tr>
<td>Lease</td>
<td>10 to 15 years</td>
<td>Water supply in Guinea (Conakry and 16 other towns, in 1989)</td>
<td>Commercial risk borne by the private sector, giving strong performance incentives</td>
<td>Administratively demanding; public entity remains responsible for investments</td>
</tr>
<tr>
<td>Greenfield projects</td>
<td>15 to 30 years</td>
<td>Design-build-operate Solid Waste in Hong Kong: for refuse transfer stations and a chemical waste plant.</td>
<td>Good way of getting efficient delivery of bulk services, with private investment</td>
<td>Not a good solution if supporting distribution systems are in bad shape, or traffic levels are uncertain</td>
</tr>
<tr>
<td>Concession</td>
<td>25 to 30 years</td>
<td>Water and sewerage concession began in Manila in 1997; Concession schools in Colombia, Bogotá, 1999</td>
<td>Potential for high efficiency in operations and investment</td>
<td>Requires considerable commitment and regulatory capacity</td>
</tr>
<tr>
<td>Divestiture</td>
<td>Indefinite, but may be limited by a license</td>
<td>Privatization of utilities like electricity, Telecommunications, etc.</td>
<td>Potential for high efficiency gains</td>
<td>Requires credible regulatory framework</td>
</tr>
</tbody>
</table>

As is apparent from the analysis of the table, if the principal reason for private sector participation is the large potential for gains in efficiency in the public sector, it may be expected that projects with higher level of private sector involvement deliver more efficiency gains. However, the consequent risk of failure grows correspondingly. One the other hand, options that yield higher social benefits also tend to demand a higher level of government commitment, and also require a better prepared institutional framework.
6. CONDITIONS FOR PRIVATE SECTOR INVOLVEMENT AND THE NEED OF REGULATION

Both macroeconomic and microeconomic conditions affect the involvement of the private sector in the provision of public goods in a specific country. Concerning the macro level, political factors are important: without an overall political environment supporting both private for-profit and not-for-profit activities no significant participation of the private sector in public goods provision can be established. In countries where civil society and/or the private sector are discriminated, the government will remain the dominant supplier of public goods and services. Concerning the micro-level, several conditions are also important. First of all, there must be an interest and a commitment of some individuals and firms to make the involvement happen. If there is an interest and an acceptance of the different partners to be involved, then one has to look at the capacities of the different actors. In this respect, we have to consider not only the skills of the staff to provide specific services, but also the financial availability for an engagement in service provision and the overall organizational and management structure.

Ultimately, the sustainability of the reforms and the ability of the public sector to use money more effectively in leveraging private money will depend significantly on the political commitment to design and carry out effective regulatory policies. Although regulation is above all fundamental in divestiture of utilities, it is also important in other forms of private involvement on provision of basic public services. Within the framework of NPM reforms, in order that the new, privatized market be efficient and equitable, it must be well regulated so that it operates in ways that maximize social returns. Justifications for expanded outsourcing of public services clearly recognize this: “Capacity in the government to contract out and to regulate is required” (World Bank, 2001, p. 17); “strengthening the capability of the state to develop and supervise health and education systems is thus critical” [and so] “major capacity and institution-building of public sector agencies is required to fulfill this role” (World Bank, 2002, p. 18). Accordingly, the need of efficiency calls for the existence of independent regulatory bodies.

So, the main changes in the last two decades in the provision of public services, both in developed and developing countries, call for strong and competent economic regulation, in order to ensure that the interests of all parties are protected. Such protection is necessary first and foremost, to defend the customers’ interests but also those of the public and private
parties to a contract. The role of institutions in charge of carrying out regulatory functions is even more important in developing countries than in developed ones. In the former, owing to several reasons that affect differently the two groups of countries, a much more intrusive and demanding form of regulation is required. Besides the reduced educational level of the population and the scarcity of infrastructures, which may restrict the availability and circulation of information, many other reasons affect the effectiveness of the regulation in developing countries. However, in developing countries the need for regulation is even more vital, because they are usually characterized by non-competitive industry structures and/or lack of capital market discipline. In such environments, too little market information is revealed and information asymmetries are overwhelming. In addition, regulators in developing countries face other specific challenges, when large portions of the customer base for infrastructure services are poor and unconnected, tariffs are being kept artificially low, baseline information for decisions tends to be limited or unreliable and the regulators have difficulties in establishing their credibility and in implementing sound governance arrangements.

As already argued (Pessoa, 2008), to be effective, regulators are required to fill three qualities: competence, this quality being measured by access to technical expertise in a wide variety of areas; independence, both from government interference and from capture by service providers and interest groups; and legitimacy, i.e., both long-lasting by existing legal principles and practices and being transparent and accountable. Many, if not all, regulators lack one or all of the qualities required for effective regulation. These deficiencies can result from different reasons, including limited resources, repeated political interference in regulatory decisions, difficulty in attracting and retaining competent staff, and short or no history of performing regulatory functions. All these deficiencies are particularly apparent in the case of countries emerging from social conflict or where the political environment makes it difficult to set up any kind of independent institution.

Where there is lack of independence we can’t prospect either great legitimacy or competence. This lack in turn limits the capacity of agencies in charge of regulation to act as effective regulators, i.e. to promote adequate levels of investment in the regulated sector through the setting of tariffs that recover costs without depriving part of the society from

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24 Since the beginning of utility reforms in the late 1980s – early 1990s, it is estimated that about 200 regulators in some 130 countries have been granted the functions of regulating public services such as telecommunications, water, and electricity (World Bank, 2004).
using the services, to attract private investment and/or to monitor the public sector for superior performance. Of course, regulatory functions can also be contracted out, but there must be a core of functions that governments cannot give up.

7. CONCLUSION

As it is well known, the role of governments in formerly developed countries started from the very limited scope of Adam Smith’s “small government” that provides only defense and the administration of justice. However, it is widely acknowledged that the relative share of government fiscal activities (in short, the public sector) tended to increase steadily in the national economy towards a big government. However, if one looks at the role of the government’s performance in practice, one has to recognize that, due to allocative inefficiency, operational inefficiency and equity problems, sometimes it poses more problems than solutions. Additionally, if public services are provided for free and are accessible, then the quality is often so bad that people prefer to go to a private provider and to pay fees with a certain guarantee of a quality treatment. But if people prefer a private provider even if they have to pay fees, a question arises: Why not “contracting out”?

The answer to the above question must take into account that outsourcing services is not so easy as contracting out goods. This explains why for instance, in education, there is considerable contracting out to the private sector, for things like building schools or running a cafeteria, but these experiences with well-defined school inputs have little to do with the core functions of educational public agencies, where outsourcing is much scarcer.

Given the possibility of outsourcing, public bodies are confronted with the decision of whether they should produce a service internally or contract it out. The choice between the two options must be founded in an analysis that equates benefits with costs. As argued in section 4, it is not easy to compute the total costs associated to outsourcing. Particularly, the costs with contracting and regulation are generally overlooked, as well as the need of an augmented regulation when outsourcing is extended to another service is usually ignored.

The design of rules and regulation and their enforcement are crucial in efficiency and equity grounds, where government decides contracting out services or involves itself in a partnership with the private sector. If the public interest is to be secured, outsourcing
requires that the public sector be equipped with staff with the relevant contract-management experience, policy expertise, negotiation, bargaining, and mediation skills, oversight and inspection capabilities, and the necessary communication and political skills to manage programs with third parties in a complex political and economic environment. If this capability exists, outsourcing in public services may not have the result of creating what has been termed the ‘hollow state’ (Bovaird, 2004); nevertheless, outsourcing must not be considered as a panacea to the problems posed by the public provision.

REFERENCES


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