

Public Or Private “Ownership” – What’s In A Name?

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ABSTRACT

This paper examines the similarities and differences between public and private ownership of water utilities, including variations such as corporatisation. In any utility where the asset owner and the asset operator are the same there are pressures to reduce operations and maintenance costs and capital expenditure to maximise returns. The authors argue that this is the case irrespective of whether such returns are to private shareholders or dividends to government.

On the other hand, where the asset owner and the asset operator are separate entities with a clearly defined contractual interface, it is not possible to increase returns by reducing operations and maintenance standards, presuming a properly constructed contract. This is because the performance standards are clearly stipulated in the contract with payment reductions applying for non-performance. Such a model can be put in place irrespective of whether the asset owner is a private company or a public utility.

The paper examines the profit incentive applying to private and public sector organisations in models where:

- the asset owner and the asset operator are the same organisation; and
- models where the asset owner and the asset operator are separate organisations, with the service delivery performance governed by a clearly defined contractual interface.

The paper shows why the drivers governing the behaviour of public sector and private sector owners are similar, and how the separation of asset owner and asset operator can be used to ensure service delivery standards are achieved at the lowest cost, whilst providing full transparency to shareholders, regulators and customers alike.

The paper also reviews actual comparative data on service quality and performance under a number of ownership and contractual models, and draws conclusions on the effectiveness of the various asset owner/operator models in terms of service delivery performance and costs.

KEY WORDS

Service delivery, ownership, outsourcing, economic rationalism

INTRODUCTION

The implementation of water and wastewater projects involving operation and maintenance of assets by the private sector can raise community emotions. Much of the anti-private sector argument is based on loss of community ownership, loss of control and

profits going to the private sector. Notably, the 'natural monopoly' and the 'essential service' characteristics of water systems are often raised as critical factors in the development of these negative positions on private sector involvement in the water industry. Authors such as Sheil (2000 and 2001) have detailed these arguments from an "economic anti-rationalist" viewpoint, arguing against corporatisation and privatisation from a purely economic perspective. The crux of the economic anti-rationalist argument is that corporatisation and privatisation lead to lower service standards because of the incentive to increase rates of return and hence dividends/profits.

Whilst in specific circumstances these arguments may have some merit, they are often applied as arguments against all forms of private sector involvement irrespective of the contractual or service delivery structure. The resulting community "privatisation" debates, which often rapidly develop political overtones, mean that projects involving private sector operations and maintenance can be difficult to implement, extending lead times to implementation and creating higher than necessary transaction costs. However, these debates are more often than not almost irrelevant in the context of the proposals at hand, as the separation of asset owner and service provider roles seen in the majority of contracts makes it almost impossible to implement a reduced standards versus increased returns trade-off (assuming a properly constructed and administered contract). The clear contractual separation in owner – service provider arrangements that is typical of public – private partnerships is actually a mechanism that is, in essence, supported by the very arguments of the economic anti-rationalists.

SERVICE DELIVERY MODELS

There are a range of service delivery models that are used in the water industry. In generic terms the key models are:

- the asset owner providing all operations and maintenance services within a traditional government/local government framework (that is the organisation seeks to cover the costs of providing the services but does not seek to make a commercial return);
- commercialisation, whereby a government or local government establishes a business unit to provide the services on a commercial basis, with the overall ownership structure the same as the traditional government/local government framework described above;
- corporatisation, whereby a government organisation is essentially established as a government owned company. The organisation is run in the same way as a private company and is required to pay dividends to the government (i.e. its shareholders);
- contracting out the provision of specific services, either as an operations and maintenance contract or also involving the delivery of physical infrastructure using a design build operate (DBO) or design build finance operate (DBFO) model;
- contracting out the provision of all services on a concession or lease basis (eg France, Philippines, Argentina, Chile, Indonesia);
- partial privatisation, of which several forms have been seen in the industry. These include the selling of a large portion (typically 49%) of a government utility to a private company (eg Thailand, Berlin); and the splitting of a government utility into an asset owner and an asset operator, and then selling part or all of the asset operator to a private company (eg Czech Republic); and

- full privatisation, whereby a government utility is completely sold (eg UK).

The above delivery models are not necessarily mutually exclusive. For example, government corporations can (and often do) enter into operations and maintenance, DBFO contracts etc. for the provision of specific services and infrastructure facilities.

OPTIMISING VALUE USING COMPETITIVE MARKET FORCES

Any service delivery model in a monopoly market where the asset owner and the asset operator are the same entity and that entity is required to produce a market rate of return (a 'commercial' return) fundamentally raises a conflict between performance standards and financial standards. The extent to which this is applicable in practice is highly dependent on the nature of the regulatory environment, i.e. if the organisation does not have comprehensive performance requirements stipulated in its operating licence then the conflict is patent. Pressures to make a commercial return can impact on major capital works decisions as well as on decisions regarding operations and maintenance levels of service. As will be highlighted in the following discussion, the required performance standards stipulated in the operating licences of the major corporatised utilities in Australia are far from comprehensive, particularly when compared with the performance requirements typically included in a private sector outsourcing or service provision contract.

The service delivery models where this conflict can occur are primarily corporatisation and privatisation. Although corporatisation involves public sector ownership and privatisation involves private sector ownership, for all other intents and purposes corporatised and privatised utilities operate with the same fundamental business philosophy and aim to produce commercial returns. The issues of levels of service, accountability, value for money and transparency are therefore not related to ownership per se, but are instead related to how service delivery is structured.

Separating Asset Ownership And Operation

The optimum way to reliably ensure that service standards are maintained at the targeted level is to implement the following four key elements of a service provider relationship:

- document the performance standards that are to be met;
- develop and implement a readily auditable performance monitoring system;
- have a strong financial incentive to ensure that the standards are met; and (if the maximum incentive, and thus performance reliability, is to be achieved)
- be able to change the operator if the incumbent continually fails to perform as required.

A number of entities have attempted to implement an internal owner/operator model within their organisations. These models go some way towards meeting the above requirements. However, they cannot implement an effective financial incentive/penalty system, nor do they have the ability to terminate for poor performance. A financial incentive/penalty system applied within a single organisation cannot affect the overall financial position of the organisation, and thus is of no significance in influencing strategic financial decision making. The absence of a financial incentive to perform does not, of itself, determine that performance will be poor; however it will require that strong customer-driven management

is present at all levels of the organisation and that the performance/cost trade-off rule is clearly stated for the organisation. Nonetheless, separation of the asset owner from the asset operator is the clearly the only way that all four of the above elements can be achieved.

The separation of asset owner and asset operator is fundamentally achieved by contracting the provision of asset operations (and maintenance) services. These can be contracted as a specific service or tied to the delivery of capital works via a DBO or DBFO contract form. For this separation to be effective the contract must be well structured. With reference to each of the four critical elements previously identified:

- the required performance standards need to be comprehensive and realistic. Setting performance standards that are too high (in a relative sense, higher than the standard that the serviced community reasonably expects) will result in higher costs than necessary, and setting them at an impractically high level is meaningless as the contractor will always be in default. There is no point writing a contract that will reach the termination stage early in its life irrespective of the capabilities of the contractor. Conversely, the performance standards need to be high enough to ensure that customer service standards do not decrease below the targeted level or that the asset life can be inappropriately sacrificed;
- the system of performance measures needs to be matched to the performance requirements, and they must be readily measurable and auditable. A system of performance standards and performance indicators should be used for reporting, particularly for asset related data where asset life shift indicators are needed. For transparency, the level of performance achieved by the contractor should be publicly available.
- the contract should require the contractor to meet the required performance criteria to be paid in full each month. Payment reductions for poor performance should be large enough to provide an incentive for the contractor to perform, but not so large that they eat deeply into the underlying costs of providing the services. That is, the reductions should target the profit component of the contract rather than the direct costs. A contractor that covers the bulk of the operating costs each month will strive for better performance to make a profit, whereas a contractor that is losing significant money each month is more likely to search for a legal response to rectify a critical situation.
- the owner must also have the ability to terminate the contract if the contractor either continually fails to perform or fundamentally breaches the contract. The ability to terminate is a particularly important factor in meeting public and political concerns regarding accountability issues.

Irrespective of the commercial structure of the asset owner, the owner is always fundamentally interested in the least cost solution. In a separated owner/operator model this will be delivered via a competitive tender process. Contracting the provision of the services forces the owner to determine and document the level of service that will be provided, with competitive market forces determining the least cost for the provision of the services to the required standards.

Concerns are often raised by the economic anti-rationalists that contracting will necessarily lead to higher prices through the contract period. This argument is clearly fallacious as:

- a tender process will deliver the best value outcome and lock in contractor charges; and
- a properly constructed contract will only allow charges to be increased in line with inflation or where the Principal has requested that additional services be carried out.

Nonetheless, any evaluation of contracting should conduct a 'boundary of the firm' analysis, comparing the transaction costs to the benefits obtained.

USE OF LIFE CYCLE COSTS IN DEVELOPING PROJECT SOLUTIONS

There are a number of delivery methods that can be used to procure new infrastructure. For 'simple' assets such as pipelines, operations and maintenance costs are low compared with the cost to construct the pipeline. In these instances delivery methods that focus predominantly on capital cost and design standards are appropriate. For more sophisticated assets, such as treatment plants, operations and maintenance costs can be significant, can be highly influenced by process configurations and equipment selection, and are often similar to the original capital cost when assessed on a present value basis. For these types of assets the best value will be achieved for the owner when the life cycle costs of the facility are optimised at the owner's cost of funds.

The process of optimising life cycle costs is primarily undertaken at the design stage. In order for this to be achieved efficiently, a delivery mechanism is required that forces the designer and constructor to focus on whole of life costs *at this stage*. A number of design and construct type procurement methods have been used that purport to consider life cycle costs, however in practice these simply focus solely on power and chemical consumption. Life cycle costing involves more than just power and chemical consumption: it also involves equipment maintenance, overhaul and replacement costs, as well as costs associated with labour, waste disposal and sampling and analysis.

To make an accurate assessment of the operations and maintenance costs over the life of a facility requires operational expertise. This expertise is found within water utilities and operations and maintenance contractors, but rarely in construction contractors or design consultants. For this reason, procurement processes that do not involve either a significant operations and maintenance component in the contract or a very hands-on involvement of the utility client in the design process will not produce an optimised life cycle cost outcome.

The procurement processes that are best placed to optimise life cycle costs are 'Alliance'-style relationship contracts (those which heavily involve the utility operator in the design process), DBO and DBFO contracts. Because of the financing aspect of DBFO contracts, the length of the operating period is usually sufficient to ensure that life cycle costing issues are considered, particularly when the bulk of the mechanical and electrical equipment installed in the original plant will have an economic life of less than 15 to 20 years.

For DBO contracts, however, there are no financing constraints on the selection of the operating term. Contracts have been let with operating periods ranging from less than five years to 20 years. If the purpose of including an operations and maintenance component in the contract is to guarantee the treatment performance of the facility, then the operating period can be set at the discretion of the client and will depend upon process factors such as influent variability, demand variability, weather, etc. On the other hand, if the

operations and maintenance component has been included in the contract primarily to optimise life cycle costs then the operations and maintenance contract period needs to be of the order of 15 years. The reasons why this is the case are:

- much of the mechanical and electrical equipment in the plant will need to be replaced in the 15 to 20 year range. Smaller equipment such as chemical dosing pumps will need to be replaced around every seven years. Setting the operations period at around 15 years ensures that the cost of facility is optimised over the useful life of the bulk of the plant and equipment originally installed. In addition, technological advances tend to occur at intervals of the order of 15 years;
- setting the operating period significantly less than 15 years will result in the contractor ignoring the maintenance and replacement of plant and equipment. For an operating period of, say, five years a contractor can operate a plant with a lower level of maintenance than would be applied if the same contractor was responsible for the maintenance costs in the 10 years following the end of the contract; and
- setting the operating period much longer than 15 years (say 20 to 25 years) encourages gambling by contractors at the tender stage. In a 20 to 25 year contract a prudent contractor may factor in the replacement of much of the major mechanical equipment with an estimated 15 year life, whereas a more bullish contractor may gamble that the equipment will be able to last until the end of the contract. As a result, all contractors are unlikely to prepare their pricing on the same basis, with the result that the more bullish contractor is likely to be successful. This is undesirable, as the aim of the tender process is to select the best contractor (on a value basis) to do the work, rather than selecting whoever takes the biggest gamble. Setting the operating period at 15 years will ensure that all tenders are priced on a common basis as no tenderer will allow for the replacement of the major equipment at the back end of the contract.

STRUCTURES USED TO SPECIFY PERFORMANCE

Structures used to specify the performance of operations and maintenance services fit into three categories. These are:

- Voluntary service standards – for example Shoalhaven Water (1997) in NSW has produced a comprehensive list of performance standards covering all aspects of service provision, which is freely available to customers.
- Regulated performance standards – these are the standards placed on corporatised (or privatised) utilities by the various government regulators and which form part of the utility's operating licence.
- Contractual performance standards – these are included in the various outsourcing and service provision contracts. In most cases the contractor is required to meet these standards in order to receive full payment.

The performance standards contained in operating licences do not usually drive the performance of a utility. In general, these standards were developed by the utilities themselves at the time of introduction of the operating licence, and were generally based on a "bottom up" view of what the hydraulic systems could deliver rather than a more strategic "top down" view of what the service standards should be, based on a derivation

from reasonable customer expectations. The standards are, accordingly, far from comprehensive. For example, both Sydney Water and Hunter Water in NSW are required to meet only two water network standards and one wastewater network standard under their operating licences. These cover water discontinuity, water pressure and sewage surcharges (in addition, these utilities are required to comply with environmental standards for sewage effluent discharges and health standards for water supply). There are no (operating licence) regulator levied penalties for non-compliance; however, non-compliance (should it occur) would theoretically impact on future tariff reviews.

By comparison, in private sector contracts involving operations and maintenance that the authors are aware of, the contractor is typically required to meet up to 30 different standards. The standards set in these situations are much more responsive to customer needs and expectations than the standards contained in the operating licences. This is because the client utilities were forced to focus on the most important aspects of running the business when preparing to contract to a third party. They therefore developed performance standards that encourage or oblige the contractor to respond in a manner which addresses these issues. In all of these contracts in Australia, the contractor is required to meet these standards on a monthly basis to receive full payment.

REVIEW OF PERFORMANCE OF THE VARIOUS OWNERSHIP AND CONTRACTUAL MODELS

One of the principal initial intents of this paper was a comparison (from the customer's perspective) of the performance of the various ownership and contractual models used in Australia including, for the case where utilities that have contracted out operations and maintenance services, to compare performance before and after contracting. The available data on performance is, however, limited to the WSAA Facts series (1995 to 2000), which only contains data *after* the major service contracts in Melbourne, Perth and Adelaide had been awarded. Further, the data contained in the WSAA Facts series and the Non Major Urban Water Utilities Performance Monitoring Reports (1997/1998 to 1999/2000) is, for the majority of categories, heavily influenced by asset age and condition and not directly by contractor performance.

What can be drawn from the data, nonetheless, is that performance standards clearly do not deteriorate as a result of either contracting out or corporatisation; an outcome which runs contrary to the theories of the economic anti-rationalists and claims by opponents of private sector service provision. There are several performance measures in the WSAA Facts series that do relate to performance efficiency, e.g. the restoration of service within five hours (unplanned) for both water and wastewater (Figures 9.11 and 9.18, 2000 edition).

For the restoration of water services within five hours in 2000, the average for all major urban water authorities (that reported on this category) was 96.26%. Data was provided for City West Water (98.19%), South East Water (99.05%) and Yarra Valley Water (99.62%) which had all contracted out the provision of network maintenance and which all performed well above average. The performance range for corporations undertaking their own maintenance work ranged from 87.30% for Sydney Water to over 99% for Actew Corporation (99.40%).

Performance results were similar for the restoration of wastewater services within five hours in 2000. The average performance in this category was 92.99% with all utilities that had contracted out (and reported) performing well, these being SA Water Corporation

(96.23%), Yarra Valley Water (99.50%) and South East Water (100.00%). The performance for utilities undertaking their own maintenance work ranged from Hunter Water (89.60%) to Power and Water Authority NT (100.00%).

The comparison of performance between corporatised organisations and the traditional government/local government model is more problematic and is influenced by the geographical characteristics of the non urban utilities as well as asset age and condition. However the average duration of water interruptions for the major urban utilities (almost all of which are corporations) in 1997/98 was better than only 35% of the non major urban utilities (the bulk of which are traditional government models). For the average duration of wastewater interruptions, on the other hand, the performance of the non major urban utilities was better than the major urban utilities. This is not surprising given the (generally) younger asset base and smaller pipe sizes seen in regional areas compared with the older and larger unit size systems in the metropolitan areas.

CONCLUSION

From the available performance data it is not possible to draw conclusions as to whether one particular business/delivery model is better than any other. Indeed, it would be expected in a sample as diverse as the Australian water industry that there would be good and bad performers in all business/delivery model categories. What can be concluded from the available data is that there is no evidence that contracting out the provision of operations and maintenance services will lead to a reduction in service levels. This is arguably the natural expectation, given that a well structured contract will contain appropriate performance requirements and provide the contractor with a strong financial incentive to perform to those requirements.

The available data comparing corporatised and non-corporatised utilities is less conclusive, and an analysis of the data pre-corporatisation and post-corporatisation is required before any conclusions can be drawn. Nevertheless, it is clear that the performance requirements contained in the operating licences of the corporatised utilities are of themselves not sufficient to drive or incentivate the service performance of the utilities.

Contracting out the provision of services requires the performance standards to be documented, monitored and reported on. Contrary to the claims of those opposed to private sector contracts, the authors assert that this actually increases accountability and transparency when compared with traditional government and corporatisation models.

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