Transacting under a Performance-Based Contract: The Role of Negotiation and Competitive Tendering

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Abstract
There is a growing body of theoretical and empirical evidence to support the promotion of awarding mechanisms with formal and informal devices, aimed at economic efficiency and effectiveness through the life of the contract i.e., *ex ante* and *ex post* coordination. Building on growing arguments to support negotiations instead of auctions, Bajari *et al.* (2002) suggest that auctions perform poorly when projects are complex and contractual design is incomplete. Areawide contracts in bus and rail appear to fit this circumstance, in contrast to somewhat simple and relatively unambiguous bus route contracts. This literature argues theoretically and empirically that auctions (i.e., competitive tendering) can stifle communication between buyers (i.e., the regulator) and sellers (i.e., the service provider), preventing the buyer from utilising the contractor’s expertise when designing the project. Authors such as Yvrande-Billon (2007), drawing on the French experience, promote the case for greater emphasis on establishing a credible regulatory scheme able to govern the procurement of public services *ex post*, and that focusing on introducing market mechanisms *via* competitive tendering per se does not guarantee better value for money. Implicit in her arguments is the need to develop trusting partnerships and (incomplete) commercial contracts with unambiguous incentive and penalty structures throughout the life of a contract, with market mechanisms such as competitive tendering always present as a way forward when operators fail to comply under reasonable notice. This paper develops these themes as a way of gaining a better understanding of negotiated performance-based contracts.

*Keywords:* public transit, competition, tendering, negotiation, efficiency, trusting partnerships, incomplete contracts, contractible quality, non-contractible quality

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Introduction

This paper documents some thoughts on the reform agenda in public transit that is occurring throughout the world. The specific focus is on the commitment to competitive regulation through competitive tendering, and the growing interest in alternative mechanisms such as negotiated performance-based contracts, to deliver efficient and effective outcomes. What does one gain after periods of re-tendering from a high rate of churn in tenders?

The growing evidence of a permanent *co-evolution* between agents, structures and contracts is a motivating reason to write incomplete contracts and hence, by implication, the dependence of each party on each other to build an efficient and effective system. In the words of Macario (2007), it “provides room to develop a dynamic learning process for systematic interactions, while accumulating essential knowledge to devise more effective incentives”. Given the relatively high transaction costs of putting this relationship to the competitive tender test every so often, especially where the contracts are somewhat complex (as in areawide contracts), and deliver a small (i.e., typically 1 or 2) number of bidders\(^1\), and almost no financial savings in service delivery, the partnership route with performance-based negotiated contracts grows in appeal.

This focus may well enable a greater emphasis on achieving social objectives in contrast to commercial objectives; some might say the tendering “paranoid” may have taken governments away from the real objectives of social obligation and maximising net social benefit per dollar of subsidy, as recognised by Preston (2007), to a disproportional over-zealous focus on cost containment and reduction. I would argue, contrary to John Preston, however, that the key issue is not ‘applying the wrong kind of competitive tender to the wrong market’ but the inappropriateness of any form of competitive tender where the transaction costs are so high as to nullify any financial gains at the expense of the relative neglect on broader social obligations, which place as much emphasis on benefits as of costs. The exception is typically a *first round* tender when moving from an historically entrenchant publicly provided public transport service. The latter usually delivers huge windfall financial gains in the range 20-30 percent (Hensher and Wallis 2005).

There is a small but growing body of theoretical and empirical evidence (see Williamson 1987, Yvrande-Billon 2006) to support the promotion of awarding mechanisms with formal and informal devices aimed at supporting economic efficiency through the life of the contract i.e., *ex ante* and *ex post* coordination. Building on growing arguments to support negotiations instead of auctions, Bajari *et al.* (2002) suggest that auctions perform poorly when projects are complex and contractual design is incomplete. Areawide contracts in bus and rail appear to fit this circumstance in contrast to somewhat simple and relatively unambiguous bus route contracts (for example, as in London). This literature argues theoretically and empirically that auctions (i.e., competitive tendering)\(^1\) Something we increasingly see, at least in the bus context, where the contracts are areawide in contrast to route-based tenders.
stifle communication between buyers (i.e., the regulator) and sellers (i.e., the service provider), preventing the buyer from utilising the contractor’s expertise when designing the project, a theme that has echoes of the British rail problems post ‘privatisation’. Contributors such as Yvrande-Billon (2007), drawing on the French experience, promote the case for greater emphasis on establishing a credible regulatory scheme able to govern the procurement of public services ex post, and that focusing on introducing market mechanisms via competitive tendering per se does not guarantee better value for money. Implicit in her arguments is the need to develop trusting partnerships and (incomplete) commercial contracts with unambiguous incentive and penalty structures throughout the life of a contract, with market mechanisms such as competitive tendering always present as a way forward when operators fail to comply under reasonable notice. This paper develops these themes as a way of promoting a role for negotiated performance-based contracts.

We review theoretical arguments and empirical evidence on contracting regimes and the role that government and operator might play in a setting in which building trusting and collaborative partnerships, within the context of formal procurement contracts, has merit in delivering services that are in the main funded from the public purse. The focus on cost efficiency and quality (or service effectiveness), and incentives to innovate as contractible and non-contractible elements, is key to the arguments. Despite the debate, there appears to be no substantive empirical evidence in the public transit sector to support competitive tendering over negotiation or vice versa. The only empirical comparative study we are aware of is Bajari et al. (2002) who examine private sector building contracts awarded in Northern California during the years 1995-2000. The analysis suggests that auctions perform poorly when projects are complex and contractual design is incomplete. Furthermore, auctions stifle communication between buyers and the sellers, preventing the buyer from utilising the contractor’s expertise when designing the project. Defining complexity is clearly a crucial aspect of the debate and one suspects that such a definition will be rather blurry and subjective.

The arguments presented herein are in part based on an appreciation of the global evidence presented over the last 18 years at the International Conference Series on Competition and Ownership of Land Passenger Transport, known as the Thredbo series (see Hensher 2005). The Thredbo series provides a rich array of real world experiences as many countries test the full gamut of procurement and funding models in the context of reform of their public transport systems, especially bus and coach. (Macario 2001, Norheim and Longva 2005, Preston 2005, Preston and van de Velde 2002, Viegas and Macario 2001, van de Velde 2001, Van de Velde and Pruijmboom 2003 and van de Velde et al. 2005).

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2 Co-founded in 1988 by David Hensher and the late Professor Michael Beesley CBE, and now recognised globally as the premier conference on competition and ownership of land passenger transport.
Positioning the Debate within the Context of the Strategic Objective of Government

The broad objective(s) of government is to provide a good quality, integrated and continually improving transit service for a fair price, with reasonable return to operators that gives value for money under a regime of continuity.

There are a lot of valuable signposts in this objective, focused on securing appropriate services for the community in the context of a trusting partnership between all stakeholders, mindful of the social and commercial imperatives that each stakeholder works towards, given each parties legally sanctioned contractual obligations. There is a strong recognition from the outset that the service provider (i.e., transit business) is a crucial input, but only one input, into the overall obligations of government to provide mobility and accessibility services to the community, that are consistent with value for money per taxpayer dollar.

Given the requirements to meet social obligations, there is the risk that social obligation gets misinterpreted as either delivering value for money (a popular phrase, defined so often as doing more with less), rather than the preferred definition (globally) of maximizing accessibility or net social benefit per dollar of government funding. The latter is useful under all contractual arrangements, since government still has substantial investment in the infrastructure and demand management of the system. Underlying this focus is recognition that building an efficient and effective supply chain of stakeholders in public transit provision requires a foundation strong in trust, with its distinct commitment to cooperation and collaboration. As far as we can tell, many jurisdictions have a way to go in connecting through a trust chain, be it linked to negotiation or competitive tendering.

Negotiation – A Heterogeneous Construct

In very general terms, negotiation is the process through which parties perceive one or more incompatibilities between them, and work to find a mutually acceptable solution. In contrast to auctions (including competitive tendering), which are framed to determine the value of a product or service, negotiation is designed to create the value of the product or service. Bargaining is part of negotiation and typically involves a single issue between two parties and is usually a zero-sum game.

Negotiation can be classified as soft or hard (like thin and thick partnerships). Under soft negotiation (SN), the agents are ‘friendly’, the objective is agreement and concessions are permissible and are sort out; trust matters with respect for each party when it changes its position, makes an offer and discloses their bottom line. Hard negotiation (HN) involves agents who are somewhat adversarial; the objective is ‘victory’ and concessions are demanded as a condition of ‘friendship’. Negotiation involves hard lines in terms of

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3 This phrasing avoids the ambiguity of subsidy since government is also investing in the system.
issues, a strict non-trusting position, the presence of threats, and game playing in terms of revelation of bottom lines. The price of agreement under HN is often a demanded one-sided gain.

Whereas competitive tendering typically operates in market situations with more than one service provider, and a focus on well defined services with information flowing through bids and a focus on outcome, negotiation is typically framed as a one buyer-one provider situation where the service might not be defined completely yet, preferences might not be clear before negotiation (for good reason, so as to exploit expertise) and where information exchange is an integral part of negotiation. Although the outcome is relevant, so is the process leading to the outcome. Implicit in negotiation is the importance of relationships between the parties. In a very real sense, negotiation and competitive tendering might be seen not as alternatives but as complements in a sequence (Ivanova-Stenzel and Kroger 2005), where the competitive tendering stage is only necessary where certain conditions are not satisfied within the negotiation stage and during the agreed service delivery period. This is consistent with the promotion in Hensher (2007) of negotiated PBCs, with competitive tendering invoked when a service provider fails to deliver under the agreed contract with reasonable notice.

A Theoretical Framework

Consider a regulator who wishes to procure a bus service. If the service is provided according to the regulator’s needs, the regulator will obtain a value of $v^*$. For a service to be designed and delivered the regulator must provide the operator with specifications that describe the delivered service. The regulator’s first choice parameter is how much service specification to perform *ex ante*, where more design means a more detailed account of the service required. A more detailed design and description reduces, but not eliminates, the need to renegotiate changes *ex post*.

Let $\Upsilon \in [0, 1]$ represent the fraction of specifications that are detailed by the regulator, with $\Upsilon$ defined as the probability that *ex post* contingencies are covered by the contract’s specifications, and no *ex post* adaptation will be required. With probability $1-\Upsilon$ a contingency will arise for which there are no instructions, implying that the *ex ante* specification will not result in the successful completion of the project, and the regulator will not obtain the value $v^*$.

We interpret $\Upsilon$ as the contractual completeness of the service provision. Let $T \geq 0$ be a scalar that represents the complexity of the service to be provided, where higher values of $T$ imply greater “complexity”. $T$ might be interpreted as the number of clauses/service tasks required to completely specify the obligations of the operator, although the definition of complexity remains open. Given the high cost of a detailed specification, including uncertainty when implemented, providing a contract specification of completeness $\Upsilon \in [0, 1]$ for a service provision of complexity $T$ costs the regulator $g(\Upsilon, T)$. Bajari and Tadelis (2001) derive three properties of $g(\Upsilon, T)$:

(i) For a given level of complexity $T$, costs are increasing in specification detail.
(ii) The cost of guaranteeing a fixed probability of \textit{ex post} specification $\Upsilon$ is increasing in complexity $T$.

(iii) The more complex a service specification, the higher is the marginal cost of increasing the probability of specification, so that $\partial^2 g(\Upsilon,T)/(\partial \Upsilon \partial T) > 0$.

The regulator’s supplementary choice is what cost incentives the operator should receive, where higher incentives mean that the operator bears more of the costs of delivery. Consider the two divergent contractual forms. Let $x \in \{0, 1\}$ represent this choice variable, where $x = 1$ is a cost plus (low) incentive scheme, and $x = 0$ is a fixed price (high) incentive scheme.

If the contract covers the \textit{ex post} contingencies, then the regulator obtains a payoff of $v^*$ and incurs a cost of $c(x)$. Stronger incentives naturally imply a lower cost of service provision, so $c(0) < c(1)$. In the event that the specification does not cover the \textit{ex post} contingencies, which happens with probability $1 - \Upsilon$, then the regulator still incurs the costs $c(x)$, but obtains a lower payoff of $v(x) \leq v^*$, with $v(0) < v(1)$\textsuperscript{4}. This inequality shows that in the presence of \textit{ex post} incomplete information, fixed-price incentives dissipate \textit{ex post} surplus due to costly renegotiation, whereas with cost-plus contracts \textit{ex post} surplus is not reduced.

The choice of incentives is strongly tied to the choice of award mechanism, namely, the choice between tendering and negotiation. A cost-plus contract does not lend itself well to competitive tendering, especially with increasing complexity that may induce a low number of bidders. Bidders can bid over the ‘plus’; however, as the ‘plus’ is often only a fraction of the costs, this would be an unsatisfactory way to select an operator under very reasonable assumptions. For example, more cost efficient operators may be able to deliver a much superior service level and would promote a greater ‘plus’ which may lead to the contract being awarded to a cost inefficient operator who opts for a lower ‘plus’ but a consequent greater lower level of service per dollar outlaid. Given the difficulty in ensuring that all parties have a full appreciation of what service quality is and the way that incentives can work for operators of differential capability (unrelated to costs per se), the opportunity to negotiate adds potential benefits that are denied through tendering\textsuperscript{5}.

In an important paper, Ivanova-Stenzel and Kroger (2005) show that allowing for individual heterogeneity in risk preferences of both market sides (i.e., regulator and

\textsuperscript{4} This was the case in Adelaide in early 2005 where the operator delivered substantially higher service than was budgeted under incentives (or contingencies) by the government. The money was found so as to avoid an expensive court case.

\textsuperscript{5} There is a caveat – it may be possible to agree to negotiate on the details with the successfully selected operator through a tendering process. However some authors (e.g., Ivanova-Stenzel and Kroger 2005) have suggested that such a two-stage process adds very little that could have been sorted out at a lower transacation cost through a stage one negotiation with tendering only under non-compliance. Kirkegaard (2004) reconsiders the results by Bulow and Klemperer (1996) and shows that negotiation through bargaining is more profitable than an English auction if demand is discrete and agents are sufficiently patient. He also demonstrates that the English auction can be improved by negotiations prior to the auction if buyers are asymmetric or the marginal revenue is non-monotonic.
operator) leads to positive outcomes already during the negotiation phase. This result seems to be driven by risk aversion of regulators than of operators. By using existing population estimates of risk preference parameters (in a non-transport context), Ivanova-Stenzel and Kroger made quantitative predictions for the distribution of operators’ price offers and acceptance behaviour of regulators. Moving away from risk neutrality improves the fit of the model for regulators, but cannot account for a big part of individual operator’s decisions. A great deal of operators offer prices are typically too low as well as too high to be explained by risk preferences alone. This is especially striking for low price offers (i.e., what exactly is being offered given the capability to deliver under such relatively low prices?). In trying to explain individual deviations of operators, an important issue seems to be whether or not uninformed agents take into account the strategic behaviour of their informed opponents. If operators fail to anticipate regulators’ reaction to their price offer they might choose prices which are too low and forgo commercial opportunities (by failing to act innovatively), a fallacy which, in resemblance to the winner’s curse in negotiations, Ivanova-Stenzel and Kroger denoted as “operator’s curse.”

Auction theory has demonstrated that the benefits from an auction can depend on the number of bidders who will participate. In particular more bidders will generate a lower expected bid. Thus, we would expect the costs $c(\cdot)$ that result from a tender to be decreasing in the number of participating bidders, $N$. It is well known that the cost of preparing a bid is not trivial, especially areawide bids. One can argue that the costs of preparing a bid would depend on the complexity of the required tasks, creating some correlation between $\Upsilon$ and $N$.

To address the effect of $N$ on negotiations, we assume that fixed price incentives, be they linked to patronage growth and/or service enhancement, will lower costs by more than from selecting the most reputable operator with cost-plus incentives. In particular, we will make the strong assumption that once a cost-plus/negotiation choice is made, then delivery costs $c(\cdot)$ are higher than if a fixed-price/tendering choice is made. Incorporating this assumption with the fact that a tender results in costs that are decreasing in $N$, gives the following condition:

$$c(1,N) > c(0, 1) > c(0, 2) > \cdots > c(0,N) \text{ for all } N \geq 1.$$ 

We now have the regulator’s objective as based on Bajari et al. (2002):

$$\max_{x \in \{0,1\}, \gamma \in \{0, 1\}} uB(x, \Upsilon; T,N) = \Upsilon v^* + (1 - \Upsilon)v(x) - c(x,N) - d(\Upsilon,T).$$

*Holding the number of bidders fixed*, more complex service delivery (e.g., areawide contracts) is more likely to be negotiated, while simpler service delivery (e.g., route based contracts) is more likely to be procured using tendering. *Holding complexity fixed*, an increase in the number of available bidders makes tendering more attractive. This generates two hypotheses: (i) more complex services are more likely to be negotiated,
and (ii) when less bidders are available, service delivery is more likely to be negotiated. This can be easily shown for a second price tender since the second order statistic is decreasing in N.

There are, however, other influencing forces beyond a simple theoretical model that may bear on the choice of award mechanism. Tendering stifles coordination between the regulator and contractor before the agreed service delivery requirements are finalised. An operator often has the ability to evaluate the coherence and completeness of the service delivery and, most important, the costs of any such service proposed.

Furthermore, it is widely believed that when competitive tendering is used to award a fixed-price contract, the operators strategically read the service delivery specifications to determine where they will fail. Suppose that operator A sees a flaw in the service delivery specification that will cause a change leading to $10 million of commercial gains, and that the other N−1 operators are unaware of this. Operator A will likely win the contract since he would be willing to bid less than operators who do not see the deficiency. Thus, the operator who is most aware of the specification deficiency and who most aggressively pursues extra compensation for changes will be awarded the contract. Competitive tendering therefore leads to adverse selection (Hart and Holmstrom 1987). In negotiations, however, the regulator and operator typically spend a good deal of time discussing the requirements before the contract is agreed to. If the regulator can elicit the operator’s views about where the requirements can be improved, then negotiations might be preferable to tendering. We are unaware of any theoretical model that explains why it might be possible to elicit this information in a negotiation, but not in a competitive tender.

The preceding argument implies that benefits to the regulator from choosing negotiation will be greatest when the operator reveals pitfalls with the plans and specifications. Therefore, we might expect the choice of negotiations to be correlated with the selected operator’s good “reputation” for partnering with regulators in negotiated contracts.

**Supporting Efficiency and Effectiveness through the Life of a Contract**

The negotiated performance-based contract regime being promoted herein recognises the continuous role of markets and the need to use competitive processes if they can deliver the most efficient and effective outcomes. Some elements of the efficiency-effectiveness dyad will be contractible, but many may be non-contractible; and it is often through the non-contractible dimension that we see innovation and benefit that is typically delivered better by private ownership than by government ownership of tangible and intangible assets.

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6 This is the situation I suggested elsewhere for situations like New Zealand where the average number of bidders for urban bus contracts is 1.2.

7 In part based on discussions with bus operators in Sydney in 2005 when the new metropolitan bus service contracts (MBSC) were being negotiated prior to signing.
Incentives built into a negotiated contract conditioned on market-linked benchmarks and the ultimate sanction of tendering if non-compliant, enable the incumbent to at least prove their worth initially and then, provided the regulator does their job (which in many ways is the Achilles heel of the entire reform process), would deliver true value for money at minimum transaction cost even after allowing for the regulatory costs that should be common to all regimes, be they economic deregulation, competitive tendering or negotiation. Van de Velde’s (2007) comments on vested interests and maintenance of the status quo are insightful, but a careful read of the statements and other related papers suggest that the negotiated PBC’s can support these biases within a framework that respects the ideals of competition policy and clearly sends a signal to incumbents of their efficiency and effectiveness obligations. This may be controversial in the sense that some pundits simply do not understand the subtleties of mechanisms available to comply with competition policy outside of competitive tendering and economic deregulation. Van de Velde’s (2007) comment that ‘The fundamental remains competitive tendering, perhaps regrettably for longer term entrepreneurship and commitment’ is a powerful message that should be taken very seriously, and especially where the grounds for sharing the expertise in service design at the tactical level in the strategic-tactical-operations (STO) framework is but one example of why the approach promoted by Hensher and Houghton (2004, 2005) has some sensible values.

Transaction cost economics (TCE) provides a relevant framework within which to develop the arguments for the roles of the market and governance which is so central to the reform process. A transaction occurs when one stage of activity finishes and another begins. With a well-working interface, these transfers occur smoothly. Importantly for any ongoing reform process, transaction cost economics maintains that it is impossible to concentrate all of the relevant bargaining action at the ex ante contracting stage (which is what competitive tendering essentially does; especially in the presence of inadequate ex post monitoring). Instead bargaining is pervasive, in which case the institutions of private ordering and the study of contracting in its entirety take on critical economic significance. Performance-based contracts (PBCs), which can be negotiated under an unambiguous condition of expected performance, align with this view (Hensher and Houghton 2004, 2005) since the market operates actively throughout the contract period, under signals delivered through incentive payments and benchmarked efficiency – or what is known as yardstick competition. The behavioural attributes of human agents, whereby conditions of bounded rationality (‘doing what each party is best at’ i.e., specialisation) and opportunism (e.g., ‘looking for appropriate opportunities to grow patronage’) are joined, and the complex attributes of transaction with special reference to the condition of asset specificity, are responsible for this condition (Williamson 1987, 178). Alignment of incentives is central to efficient contracts and property rights. The latter emphasises that ownership matters, with rights of ownership of an asset (tangible and intangible assets) defined as the rights to use the asset, the right to appropriate returns from the asset, and the right to change the form and/or substance of an asset.
Incomplete Contracts and the Boundaries of a Transit Operator’s Business

Transaction cost economics (Williamson 1985) can assist in addressing the question of what determines business boundaries. The basic tenets of the property rights framework can be usefully discussed in terms of an arrangement between a principal (i.e., the government) and an agent (i.e., the transit operator) hired to accomplish some task. As principal-agent theory has long argued, appropriate incentives must be provided for the agent. In general, because the principal cannot directly measure the effort level of the agent, incentives need to be provided by making the agent’s remuneration partially contingent on benchmarked performance. An example is the incentive payment that a transit operator might receive from improved service quality. A basic conclusion of the theory is that agency problems can be mitigated, and sometimes even solved, by offering the agent a sufficient share of the output (i.e., rewards) produced, commensurate with the risks they take and an agreed margin.

However, problems arise when it is not possible to specify clear performance measures in advance. For instance, the government may have insufficient information to pre-specify the decision-making activities of the transit operator; after all, that’s presumably what they were hired to do. The solution prescribed by agency theory calls for a comprehensive contract that considers the marginal value of all possible activities of the transit operator and the marginal cost to the transit operator in all possible states of the world, such as innovative improvements, and the ability of government to commit to pay the appropriate compensation for each outcome (Hart and Holmstrom 1987). Lacking such a comprehensive contract, incentives, and therefore production, will be sub-optimal.

Rich economic theory has emerged that combines the insights of transaction cost economics on the importance of bounded rationality and contracting costs with the rigour of agency theory. The theory focuses on the way different structures assign property rights to resolve the issues that arise when contracts are incomplete. This provides a basis for defining different organisational structures by the ownership and control of key assets. Grossman, Hart and Moore (GHM - Grossman and Hart 1986, Hart and Moore 1990) pioneered this approach, and its relationship to earlier approaches has been lucidly documented by Hart (1989).

A key tenet of the GHM approach is that, unlike the contracts typically analysed by agency theory, real world contracts are almost always "incomplete", in the sense that there are inevitably some circumstances or contingencies that are left out of the contract, because they were either unforeseen or simply too complex and/or expensive to enumerate in sufficient detail. Schliefer (1998) broadly describes all non-contractible elements as "quality", which in the transit case may include innovation, planning expertise, driver attitude and manners, vehicle cleanliness, etc. Incompleteness is a natural consequence of the bounded rationality of the parties, linked to service provision complexity, and is an important element of the case for negotiation.
We argue that attempts to burden the contract with complexity, instead of recognising sensible boundaries for an incomplete contract that allow for incompleteness and negotiation, is not a preferred strategy. Incompleteness and negotiation gives both parties the opportunity to suggest changes (or variations) that move towards efficient and effective delivery, in contrast to the often seen evidence that overly complex contracts lead to ambiguity in translation and operator focus on such compliance with a diminished interest in exercising a commitment to continuous improvement in the service (through risk sharing outside of the contract). Such complexity may also result in budget blow out as a consequence of high transaction costs in ensuring compliance (especially if it ends up in court) and, depending on the bargaining base of each party, a risk of high outlays with little gain in service. Negotiation under incomplete contracts is relatively more transparent in that the defined variation is clarified during negotiation.

Each of the parties will have certain rights under the contract, but its incompleteness means that there will remain some "residual rights" that are not specified in the contract. The allocation of the residual rights of control will have an important effect on the bargaining position of the parties to the contract after they have made investments in their relationship. In the absence of comprehensive contracts, property rights largely determine which ex post bargaining positions will prevail. A party that owns at least some of the investment in the asset will be in a position to reap at least some of benefits from the relationship that were not explicitly allocated in the contract, by threatening to withhold the assets otherwise. A party who does not control any assets must rely on the letter of the contract or the goodwill of the good owner to share in the output. As a result, an agent who controls no assets risks going unpaid for all effort not explicitly described in a contract. In contrast, the agent who controls assets that are essential to the relationship can "veto" any allocation of the residual rewards not considered sufficiently favourable. Thus, the ownership of assets and the receipt of any residual income stream go hand in hand.

Ownership matters when an organisation makes specific investments (Williamson 1975, 1985) and where contract incompleteness leads to distorted ex ante investments (Grossman and Hart 1986). Grossman and Hart show that the agent whose ex ante investment is ‘essential’ to making the most productive use of an asset should own it. Hart and Moore (1990) suggest that an asset should be owned by an agent, or a coalition containing the agent, who is indispensable to the asset (i.e. without their participation the asset has no effect on the marginal benefit of others). They further argue that an agent who is dispensable should have no ownership rights over assets.

Efficient ownership would seem to depend both on where the investment is taking place and which is the indispensable party. Could there be a case for Government ownership of the physical assets if Government is either the party that undertakes all ‘essential’ investment (with operators therefore dispensable) or the party viewed as indispensable? Schliefer (1998, 137) point out that GMH theory does not model Government participation specifically, and goes on to demonstrate that Government ownership is rarely the most efficient at providing ‘essential’ investment in non-contractible elements.

8 Hart and Moore (1990) show that this provides incentives to act in the asset owner’s interests.
Public managers have relatively weak incentives to make ‘essential’ investments (particularly innovation) as they are not the owner and will receive only a fraction of the returns. Schliefer (1998, 138) argues that the question of ownership in the Government context is rather one of whether high-powered (market) incentives are appropriate to the procurement context.

Schliefer (1998) outlines a small subset of cases where low-powered incentives (provided by Government ownership), such as legal rules on compensation of bureaucrats, complexity of government objectives and public setting rules (which reduce the return to public managers), are more appropriate when private ownership would otherwise lead to excessive cost reduction, to the detriment of non-contractible quality. For example, when a private operator does not invest in service planning and employs lower quality tangible and intangible assets. The 'power' of incentives must be looked at in two dimensions: Current income - Flat fee (lowest) through to entirely performance-based (highest); and Future income - No chance of losing contract (lowest) through to certainty that contract will be lost if performance is in any way sub-standard (highest). This is more complicated where bonuses or contract renewal depend on the subjective assessment of the principal. These incentives are generally considered to be relatively low-powered (if performance criteria are unknown they are ignored, although you would expect the agent to have some idea). We certainly see subjective assessment in the Sydney contracts (e.g. operators are required to "work cooperatively with neighbouring service providers" - how is this assessed?). In the bus context, government ownership provides low powered incentives as there is little threat of termination and current income is often not related to performance. For private operators, examples of contractual elements that contribute to the overall 'power' of the contract include: contract length (longer contract, lower powered), relative size of performance payments (less performance-based, lower powered), KPIs and other explicit measures of performance (less extensive, lower powered), contract renewal clauses (automatic renewal, lower powered), clauses relating to the transfer of private information (easier to hide poor performance, lower powered), clauses relating to termination/replacement with another operator (harder for principal to terminate contract, lower powered).

Private ownership is, however, generally considered superior even where there is strong incentive to sacrifice quality for cost savings for three reasons: gains from innovation through private ownership may outweigh the negative effects of cost pressures; where there is competition (especially with the car), demand influences quality as well as costs; where there are repeat transactions the reputational effect tends to negate cost pressures. Schliefer does not consider public transit as a case requiring low-powered incentives through Government ownership. High-powered incentives embedded in Performance Based Contracts (PBC’s, see Hensher and Houghton 2005) such as patronage and service incentives can provide the incentives for an efficient outcome.

Much of the focus in the land passenger transport context has been on physical assets (e.g., vehicles) despite the fact that 'essential', specific investment in the transit industry is more likely to involve intangible human assets (e.g., information, experience, skills). Simon (1982) has long argued for a greater emphasis on these intangible assets:
“My central theme has been that the main productive resource in an economy are programs -- skills, if you prefer -- that in the past have been partly frozen into the design of machines, but largely stored in the minds of men.”

Given the continuing information explosion, the role of "intellectual capital" is becoming more significant. As Drucker (1992) put it:

“In this society, knowledge is the primary resource for individuals and for the economy overall. Land, labor and capital -- the economist's traditional factors of production -- do not disappear, but they become secondary.”

Hart and Moore (1990) show that control over a physical asset can lead indirectly to control over human assets, where the owner exercises their ability to exclude others from the use of that asset. The owners of the human assets are provided with an incentive to act in the owner’s interest in order to make use of their asset-specific, human investment. Schliefer (1998) emphasises, however, that Government ownership of any kind of asset is usually inefficient. Given the interdependence between tangible and intangible assets across the full spectrum of contractible and non-contractible activity, if you take the ownership of contractible tangible assets away from the private sector, we engender higher risks of malfunctioning (i.e., less commitment since risk is transferred to the asset provider), especially where there is a sizeable amount of non-contractible quality.

Elements of an ‘Appealing’ Contract

The contract will remain central to all service provision strategies, even though its role and specification will differ. The evidence from over thirty years of contracting of public transport services in many jurisdictions offers voluminous experience, with strengths and weaknesses exposed. While these strengths and weaknesses of contract specification may be confounded with local contextual biases throughout the institutional supply chain (including regulators and operators), a number of ideas have evolved that provide guidelines on what are the major items to investigate when structuring a contract. These are listed below with some specific comments that can be used to engender ongoing debate.

There is always going to be some controversy in any suggestion of an ‘appealing’ contract, since ideology is often difficult to separate from positive ideas of efficiency and effectiveness (including distributive justice); but the evidence appears to be mounting in support of some directional trends, as summarised below.

1. Contract Scope
   a. Area based, one company, no temporal differentiation
   b. No limits on pick up/set down when route extends into another area
2. Contract Duration
   a. 5-7 yrs with renewal provisions
   b. Rollover on meeting minimum performance levels
c. Risk re-set at roll-over date

3. Contract Size
   a. mixture, typically 100-200 buses in urban areas

4. Risk Allocation
   a. Net-cost with revenue risk-sharing and quality incentives or
   b. Gross-cost with patronage incentive (shadow fare for children) and quality incentives

5. KPI’s/Incentives
   a. Data and reporting regime crucial

6. Contracting Process
   a. Negotiation option for roll-over
   b. Competitive tendering as fall-back option if non-compliance

7. Roles and Responsibilities
   a. Government – strategic planning and partnership
   b. Operators – service provision
   c. Collaboration – tactical and system-wide activities

8. Agreement on a Quality Partnership

Conclusions

This paper contains a message that it is even more important to recognise the high transactions costs of re-tendering through competitive processes (which is essentially an ex ante competitive process), which is typically incomplete, causing ex post adaptation to become an important feature of the transaction. Properly structured transparent and performance-based negotiated arrangements protect the continuity of service, since the need to re-tender when there are variations (under the usual rules of tendering) is circumvented in the interest of service delivery to the ultimate consumer. We admit however that there remains a significant challenge in progressing this perspective – does the regulator have the skill set to design a set of objective rules for awarding negotiated contracts (to the incumbent or another provider), and the operators the appreciation of ‘give and take’ that minimises transaction costs and secures continuity under a relevant set of rules, but that are not easily subject to manipulation, corruption or blatant favouritism. We encourage the debate to continue and the evidence to be forthcoming!

This paper offers some alternative perspectives on the role that government and operator might play in the future in the delivery of transit services. In particular, we are of the view that efficient and effective services can be provided under a carefully crafted regulatory framework that provides appropriate competitive pressures which does not necessarily require competitive tendering to deliver the appropriate outcomes.

This can be achieved under a strong continuing trusting partnership through negotiated performance-based partnerships that have strict rules on commercial relationships and deliverables. As part of a program of reform to achieve these ideals, the matter of property rights and incentives form the backbone of establishing a framework capable of meeting the obligations of all parties.
A specific asset should be owned by the organisation that can use it most productively. Importantly it is the interaction of contractibility with the need to provide incentives via asset ownership that defines the costs and benefits of market coordination. Government ownership is rarely efficient, and private ownership with appropriate performance incentives can provide the least distortion to ex ante investment incentives.

It is possible to build a quality trusting partnership with well defined commercial (contracted) obligations; however the contracting process will always be incomplete in practice, and hence there is a need to recognise that the contribution of each party in a service delivery chain requires close cooperation and collaboration. Continuity of compliant contracts is one important way of ensuring this.

References


