Australia, like other democracies, has long sought to improve the efficiency and effectiveness of procurement for national defence. A recent review exhorted Defence procurement managers to exert greater “commercial discipline.” Similar calls have been made in other countries. This paper tests such public sector emulation of commercial practice by comparing the relative effectiveness of procurement via in-house arrangements; a public procurement agency detached from Defence; and privatized provision. We show that what matters is not public or private ownership but how ownership and management are integrated and what incentive structures are applied. (JEL H44)

I. INTRODUCTION

Defence procurement is about arrangements for linking the demand for the materiel element of military capability to the suppliers of goods and services comprising such materiel. This paper is about how military materiel is procured as opposed to what is purchased. What we call the defence procurement function includes scanning the market for potential sources of supply, soliciting supplier offers, managing tenders and source selection, drafting and executing procurement contracts, managing acquisition and logistic support projects, and providing procurement advice to Defence Organization (Defence) capability managers. In most countries, the defence procurement function is undertaken by a specialized organizational element, which we label the Defence Procurement Organization (DPO). The latter is usually an “in-house” element of Defence but it may also be detached from it to operate as a quasi-autonomous agency.

This paper has been prompted by recent Australian government efforts to improve the performance of the Defence Materiel Organisation (DMO), the procurement arm of the Australian Defence Organisation in discharging the defence procurement function. The DMO was formed in 2000 to consolidate responsibility for both acquisition and through-life support of materiel in a single organization. It operates as an agency of the Defence portfolio, responsible for supporting Defence capabilities through acquisition and through-life support of military equipment. However, its performance and modus operandi have raised some concerns. The latest of several external reviews
of the efficiency and effectiveness with which DMO manages defence procurement concluded that “further improvements to procurement and sustainment could not be achieved without a greater degree of business acumen and commercial discipline being applied” (Mortimer 2008, p. ix; our italics). To this end, the review recommended detaching the DMO from the Department of Defence while keeping it accountable to the defence minister—an arrangement we analyze further in Section II.

To assess the effectiveness of alternative governance and ownership arrangements, in Section III we outline three stylized service delivery models:

- the conventional in-house provision of procurement services by an organizational element within Defence (in-house model);
- provision by an agency that is publicly owned but detached from Defence (statutory model); and
- privatized provision where the procurement function is contracted out to a privately owned service provider (privatized model).

The first two models draw on the Australian experience and each involve different forms of governance of a publicly owned procurement organization. The third model involves private ownership and the form of governance that is commonly assumed in the “privatization” literature: owner-management (King and Pitchford 2008). Each of these models involves a single service provider, the DPO, and a single “customer” for its services: Defence. (However, multiple service providers may also be considered.) We further assume that the materiel user is responsible for determining what is needed, including the approval of the deliverable and commissioning it into service, while—as already stated—the DPO is restricted to the role of intermediary between the customer and the materiel supplier.

To evaluate the above options, we use an analytic framework adapted from the work of Hart, Shleifer, and Vishny (1997) which distinguishes between cost- (efficiency) and quality-related (effectiveness) aspects of service delivery under different institutional arrangements. This framework is introduced in Section IV to derive optimal conditions for each service delivery option and compare their relative effectiveness. However, in tailoring the framework to our specific purposes, we have sharpened the distinction between the mode of ownership and the adopted form of governance: the way ownership and management are integrated. Thus modified, the evaluation framework is better suited to the assessment of alternative service delivery models under the same mode of ownership as well as those involving different ownership arrangements.

In Section V, we use the framework to determine the necessary (equilibrium) conditions for the efficient operation of each service delivery model. In Section VI, we set out seven propositions comparing the models and highlighting their relative effectiveness.

Section VII concludes the paper with a comment on possible refinements and extensions.

Our analysis does not support the conclusion reached by Hart, Shleifer, and Vishny, that private provision of weapons procurement is more efficient and effective (Hart, Shleifer, and Vishny 1997, p. 1155). Hart, Shleifer, and Vishny associate each mode of ownership (broadly, public and private service provision) with a particular form of governance. We found, rather, that the superiority of any particular mode of ownership depends on the adopted governance structure and the associated incentive regimes. Per se, neither mode of ownership is unambiguously superior.

II. AUSTRALIA’S SEARCH FOR AN EFFICIENT AND EFFECTIVE DPO MODEL

Australian defence procurement arrangements have changed significantly in the 60 years since World War II. This paper focuses on evolution of the Australian defence procurement function consequent upon the 2003 Kinnaird Review which called for a separate DMO identity as a pre-requisite for the shift to the more “commercially oriented,” performance-driven culture (Kinnaird, Early, and Schofield 2003). Kinnaird expressly rejected the option of privatizing the DMO and argued that private provision of the defence procurement function did not have and could not have any sensible rate of return target (Kinnaird, Early, and Schofield 2003, p. 38). Such arrangements were also inconsistent with the need for routine interaction with ministers and the parliament resulting from the political and strategic importance of major equipment acquisitions.

But Kinnaird did want the head of DMO to have sufficient power to reject project proposals lacking adequate analysis of risk or cost and the authority to provide the flexible remuneration
needed to attract the highly skilled staff required to manage large projects effectively (Kinnaird, Early, and Schofield 2003, p. 35). To this end, he canvassed the following organizational options for a more independent public sector agency:

- establishing the DMO as a prescribed agency within the Defence portfolio, subject to Defence personnel and other controls but with a separate financial identity;
- establishing the DMO as a separate department of state;
- creating a statutory authority within the Defence portfolio under its own act of parliament; and
- establishing it as an executive agency (with independent discretion in both financial and employment matters), located within the Defence portfolio (Kinnaird, Early, and Schofield 2003, pp. 35–38).  

In the event, the government accepted the review’s recommendation to establish the DMO as a more financially autonomous “prescribed” agency, but rejected the recommendation for greater autonomy in employment matters as an “executive” agency.

In 2008, a newly elected government commissioned another review of defence procurement (Mortimer 2008). The 2008 Mortimer review was prompted by several “high profile problem projects” inherited by the new government from its predecessors. Mortimer argued that previous reforms of the DMO had not delivered the necessary accountability, authority, independence and control over inputs for it to be fully results driven and commercially oriented. The current arrangements, where delegations can be removed from the (DMO) Chief Executive Officer by the Secretary of Defence and where workforce adjustments can be rejected or delayed by Defence mean that DMO does not have full control over its business (Mortimer 2008, p. 45; our emphasis).

Like Kinnaird, Mortimer also recommended establishing the DMO as an executive agency, while retaining its current status as a prescribed agency with a view to improving DMO effectiveness by

- making it fully accountable for its performance;
- improving the transparency of its performance in both financial and nonfinancial terms; and

The new government eventually rejected Mortimer’s argument for much the same reasons its predecessors had rejected Kinnaird’s arguments 5 years earlier. To assist policymakers interpret and learn from these maneuverings, we now outline three alternative service delivery models that can be contrasted and compared.

III. STYLIZED SERVICE DELIVERY MODELS

A. In-House Model

Our starting point is the conventional in-house provision of defence procurement services by the IDPO as an internal organizational element of Defence, D, as shown in Figure 1. As the owner of the IDPO, the government, G, has “residual rights of control” and sole “authority to approve changes in procedure or innovations in uncontracted-for contingencies” (Hart, Shleifer, and Vishny 1997, p. 1132). These residual rights of control are delegated to D, which acts as the DPO’s de facto owner. The IDPO is run by public servants, in some cases including military personnel, but all its nonhuman assets are

2. Different types of statutory and nonstatutory agencies in the Australian public sector are described in APSC (2009).

“owned” by G. To avoid agency problems, we assume that G is represented by a single politician and D by a single bureaucrat. We also assume that a single manager-worker, MD, operates the IDPO.

B. Statutory Model

The traditional in-house arrangement has been criticized extensively in Australia and elsewhere for its alleged failure to deliver materiel of the required quality on time and within budget. Consequently, governments have sought alternative defence procurement arrangements, while retaining the ownership (residual rights of control) of the DPO. One such option is the restructured Australian DMO described above. We have called this arrangement, which provides an element of organizational detachment from Defence, the Statutory Model, SDPO (see Figure 2). It also resembles the “in-house” public provision arrangements analyzed by Hart, Shleifer, and Vishny 1997. The SDPO is assigned the day-to-day residual rights of control over the procurement function. We assume D to be the only user of its services, but it can also be set up, as in Canada, as an all-of-government procurement organization (Berkok 2009).

The statutory arrangement seeks to impose greater “commercial discipline” on the procurement function by establishing a quasi-transactional relationship with D involving customer-provider agreements similar to the current service level agreements in Australia.

However, the SDPO does not sell its services to D and is funded directly by G. It is also operated by a single manager-worker, MS.

C. Privatized Model

It is hard to imagine how the SDPO is to be subjected to “increased commercial discipline” and become “more business-like” unless it is constituted as a trading entity. To operate “commercially,” it would have to sell its services to D. Preferably, it should also be detached from the Defence portfolio and made accountable to another government minister. And, as a trading entity using taxpayer-funded assets, it should be expected to achieve a satisfactory rate of return on social equity capital under its stewardship. None of these enhancements has been proposed in Australia, but in stylizing our service delivery options we should also allow for normal commercial incentives to be put in place. Thus, our third model involves the privatization of the DPO and PDPO (Privatized Model in FIGURE 3).

4. Note that the scope of the defence procurement function under our stylized arrangements has been narrowed to simple agency tasks. There is no reason, however, why the corporatized DPO could not operate “entrepreneurially” as a prime contractor responsible for the delivery of the end product under contract with its Service customers. To act in this capacity, the government would have to endow it with enough equity capital to allow it to operate on the same basis as private commercial contractors. This would allow the government-shareholder to set for it a “sensible rate of return” target.

FIGURE 2
Stylized Service Delivery Option—Statutory DPO

FIGURE 3
Stylized Service Delivery Option—Private DPO

4. Note that...
two implicit behavioral assumptions: of incomplete contracting. It is also based on cost and quality improvements under conditions of a good or a service. This model is focused on choice between the public or private provision of services. In particular, the public customer/user of procurement services must specify its sole customer; and information is asymmetric under private service provision.

IV. EVALUATION FRAMEWORK

To assess the effectiveness of alternative service delivery arrangements, we adapted the Hart, Shleifer, and Vishny (1997) model of choice between the public or private provision of a good or a service. This model is focused on cost and quality improvements under conditions of incomplete contracting. It is also based on two implicit behavioral assumptions:

- Information is symmetric under public service provision. Thus, all potential process and product innovations are visible to the owner (government), who also happens to be the activity’s sole customer; and
- Information is asymmetric under private service provision. In particular, the public customer is ignorant about process (cost) innovations implemented by the private service provider. Thus, the private provider has a strong incentive to cut costs but a weak incentive to innovate quality improvements.

In our modified framework, these behavioral characteristics are associated with the adopted form of activity governance rather than the mode of ownership per se. In particular, we argue that informational asymmetries are likely to be present under all modes of ownership.

A. Incomplete Contracting and Decision-Making Framework

The in-house model requires D to specify the procurement task for the IDPO, which could be set up as a cost center within D. Under the two detached options, SDPO and PDPO, D as the customer/user of procurement services must specify the scope of the required procurement (service) task and agree the terms of delivery with the service provider. In each case, though, there is considerable uncertainty as to what should best be procured by D, its ability to pay for it, and the capacity of service providers to deliver what is required on time and within budget. Hence, Defence cannot enter into contractual arrangements with service suppliers that are “complete” enough to take into account every conceivable state of the world that might influence what is to be procured and how it should best be delivered. As ex ante contracts are incomplete, the possession of residual rights of control is critical for making and/or approving ex post adjustments to the incomplete contracting arrangements between D and service providers (Grossman and Hart 1986). A possible solution is to manage the relationship between the parties so as to enable them to remove the initial contractual incompleteness progressively by learning, collaborating, and/or negotiating/re-contracting (Markowski, Hall, and Wylie 2009).

B. Cost and Product Innovations

Under each service delivery option, the DPO manager, M can change service quality and cost by making a personal, nonmonetary investment, effectively “an effort decision the returns to which accrue at some later date” (Schmidt 1996b, p. 574). M’s personal investment will affect the DPO’s future production cost and the quality of service provided. For example, M may try to replace senior staff with less costly juniors or higher quality personnel. This effort
is measured in terms of its disutility (cost) to M, for example, if M takes action $e$ to reduce future production costs (cost innovation), his/her personal disutility is $e$. Similarly, when M makes effort $i$ to improve service quality (product or quality innovation), his/her personal disutility is $i$. M’s cost and quality innovation initiatives are not directly observable by D, only by M. We also assume that M has no reason to make a positive effort $e$ to deliberately “sabotage” the DPO operation, that is, we expect positive $e$ to improve cost outcomes under all states of the world.$^6$ Similarly, we expect positive $i$ to increase benefit for the service buyer/user.$^7$

Once the service is delivered, it yields B benefit for Defence (and, given the assumed unitary decision-making framework, for G and society at large). This benefit constitutes the DPO’s contribution to the provision of national security.$^8$ As B is not observable and verifiable by a third party, it cannot be contracted. However, we follow Hart, Shleifer, and Vishny and represent it in dollar terms. Similarly, the DPO’s service delivery costs are given by C and are also measured in dollars.

Under the IDPO and SDPO arrangements, M must obtain the D’s consent before the desirable cost and product innovations are implemented—there are no informational asymmetries. In the PDPO model, D is assumed to be less well informed than M$^P$ about the actual cost of service production and opportunities for cost and product innovation. Thus, M$^P$ is free to implement cost saving innovations, including cost saving efforts that may result in service quality degradation, as long as the initial contract is vague enough to allow him/her to inflict quality degradation on the buyer without this being seen as a contractual breach. In this case, the contractual incompleteness benefits the supplier at the expense of the buyer and the latter has no option but to “forgive” the adverse impact of cost cutting on product quality. On the other hand, M$^P$ has no incentive to invest in quality innovation unless he/she can capture some benefits from it when the proposed service modifications are negotiated with D. If there is a quality improvement surplus to be gained by the parties, we assume that they would use Nash bargaining to split it 50 : 50.

When the DPO remains in public ownership, D must approve all proposed cost and quality innovation efforts. This enables Defence to assess the net benefit of all proposed innovations taking into account the negative impact of cost innovation on service quality. Assuming the public sector is a unitary decision maker, there are no informational asymmetries between different government agencies and potential quality improvements and cost savings are equally visible to D under the IDPO and SDPO models, that is, D is fully informed about $e$ and $i$ proposed by M.$^9$ Nevertheless, neither $e$ nor $i$ can be verified by a third party and therefore cannot be contracted.

When M invests his/her effort in cost reduction and quality improvement, $c(e) > 0$ denotes the reduction in cost because of the cost innovation; $b(e) > 0$ denotes the reduction in quality because of the cost innovation, and $\beta(i) > 0$ is the service quality enhancement because of the service quality innovation. Thus

$$B = B^0 - b(e) + \beta(i)$$
$$C = C^0 - c(e)$$

where $B^0$ and $C^0$ are respectively the benefit and cost of the basic service, while $B$ and $C$ are the corresponding ex post measures. M’s cost saving and service improving efforts must be added to C to obtain the overall cost of provision

$$C + e + i = C^0 - c(e) + e + i.$$ 

In this framework, we keep track of separate impacts of cost innovation on the cost and service quality ($c$ and $b$) but we are not concerned with the impact of product innovation on cost. Function $b(e)$ is therefore critical under this approach as “it measures how much (noncontractible) quality falls because of

6. For a discussion of this condition see the study of Schmidt (1996a, pp. 10–11). Also, a “contrarian” or indifferent M is always free to set $e = 0$.

7. It is also assumed that neither cost nor quality innovation involve the breach of the existing contract which is incomplete enough to allow both types of innovation without requiring the parties to agree a contract variation.

8. In some cases, B can be interpreted as a measure of consumer surplus (Schmidt 1996a) or, more broadly, as “something that the government cares about.” When governments are captured by various interest groups (e.g., industry), B may represent “something” that a particular sectional interest cares about.

9. However, G may require the SDPO to pursue a different agenda than that of maximizing the expected defence-related benefit of cost and product innovation. For example, it may instruct it to seek cost savings regardless of their potentially adverse impact on quality. It may also instruct it to implement quality innovations which are not perceived as such by D. In short, G may assign the SDPO objectives that are at variance with those of D and, thus, the relationship between D and the SDPO could come to look more like that between D and the PDPO.
a (noncontractible) cost cut, and hence serves as the variable that criticals of privatization focus on” (Hart, Shleifer, and Vishny 1997, pp. 1133–34). All parties are assumed to be risk-neutral, there is no discounting, and there are no wealth constraints. We also follow Hart, Shleifer, and Vishny (1997) and make a number of conventional assumptions about the convexity, concavity, and monotonicity of $b$, $c$, and $\beta$.\footnote{10}

\section*{C. Decision-Making Timeline}

Under each service delivery option, D must specify the scope of the required procurement (service) task and agree the terms of delivery with the service provider. We refer to all these ex ante service provision arrangements as the (incomplete) initial contracts. Although incomplete, these initial contracts may nevertheless require long-term commitments by the parties, especially when they have to make significant relationship-specific investments. We refer to procurement services described in these initial contracts as the basic service.

Under each service delivery option, the basic service is likely to be modified as particular states of the world materialize and as the service provider implements process (cost) and product (quality) changes. In principle, the basic service could be modified following re-contracting between the parties to become the modified service and the initial contract amended to become the modified contract. But, as the initial contract is incomplete, these initial contracts may nevertheless require long-term commitments by the parties, especially when they have to make significant relationship-specific investments. We refer to procurement services described in these initial contracts as the basic service.

There is a common decision timeline for all three options. In period 0, G decides whether to retain the DPO as a publicly owned entity (either embedded in or detached from D) or contract procurement out to the private sector.\footnote{11}

Depending on the outcome of this strategic make-or-buy decision, either D makes internal arrangements to have the basic service produced in-house, or SDPO and D enter into a service provision agreement, or D and PDPO sign a contract to deliver the basic service as described above. All these contractual arrangements are incomplete as only the basic service can be specified in period 0.

In period 1, the actual state of the world becomes apparent and the DPO manager, M, identifies opportunities for cost and product innovations and negotiates with the DPO owner, which of these should best be implemented. M then makes all those process- and product-specific investments that are authorized by the owner and which do not require D’s approval. This varies from model to model depending on who is the service provider.

At the beginning of period 2, the parties may renegotiate the initial contract to take into account all those cost and quality improvements that can only be implemented subject to D’s approval. In the absence of renegotiation or if the parties cannot agree the modifications, the modified basic service may be delivered anyway at the end of period 2 (in this paper, this only applies to the PDPO). This modified service includes all process and product modifications that have been made by the service provider without D’s consent. As initial contracts are incomplete, many such unauthorized changes can be made by the supplier and all the buyer can do is to accept and “forgive” them ex post. However, if the renegotiation is successful, the modified service also includes changes approved by D. Under all three service delivery options, the payoffs for the parties are realized at the end of period 2.

\section*{D. Managerial Incentives and Default Payoffs}

Managerial incentives to innovate also depend on how such efforts are rewarded under different service delivery arrangements. In the IDPO model, $M^D$ is a public servant retained under conditions of service applicable to all public employees.\footnote{12} Normally, these conditions of the owner and does not affect decisions made in periods 1 and 2. In our evaluation framework, we have ignored it. $M^D$ is hired in a market segment in which the government is the monopsonistic employer of all those wishing to enter public service. If all of these people are alike and act like atomistic job seekers, G sets the uniform wage, $w^D$, that equals their reservation utility, $U^D$. Thus, D can replace any individual $M^D$ by another individual drawn from the pool of identical public servants and offer him/her exactly the same terms of employment.
service provide job security but restrict the rate of remuneration well below that prevalent in the private sector. M\textsuperscript{D} identifies potential cost and quality improvements and D chooses the optimum levels of innovative effort by taking into account the expected negative impact of cost saving innovations on quality. There is no renegotiation as M\textsuperscript{D} is paid his/her public servant’s wage, \(w^D\), regardless of his/her innovative efforts and D captures the entire net social benefit of the innovative activity. Thus, M\textsuperscript{D} has no wage-based incentive to engage in vigorous cost and quality innovation. However, he/she may be sufficiently well motivated by other factors such as promotion prospects or reputation.\textsuperscript{13}

In the SDPO model, M\textsuperscript{S} is to be set free from the “onerous” terms and conditions that apply to regular public service employees. He/she is recruited from the private sector on “commercial” terms, which offer a bonus for his/her innovative efforts in addition to ex ante determined wage, \(w^S\).\textsuperscript{14} Defence captures the balance of the net benefit of cost and quality innovation (which is likely to be large relative to the managerial bonus). D also takes into account the expected service quality degradation resulting from the proposed cost savings. Thus, M\textsuperscript{S} and D must negotiate to determine the basis for and exact amount of the managerial bonus.\textsuperscript{15}

Renegotiation also occurs under the privatized option as the private owner-manager, M\textsuperscript{P}, would only improve quality if the buyer approves and rewards such efforts. Again, the expected gain is split 50 : 50. However, the PDPO may engage in cost saving activities without D’s consent.

Consider innovation-related bonuses paid to the DPO manager, M. We follow Hart, Shleifer, and Vishny and define \(\lambda\) as an appropriation coefficient that measures the fraction of the net gain from cost and quality innovation that is captured by M, where \(0 \leq \lambda \leq 1\), and \((1 - \lambda)\) is a fraction captured by the DPO owner. We assume \(\lambda^D = 0\) for the IDPO, \(0 < \lambda^S < 1\) for the SDPO, and \(\lambda^P = 1\) for the PDPO. Although \(\lambda^D\) is assumed to be zero under the in-house arrangements, we expect \([c(e^D) - b(e^D) + \beta(i^D)] > 0\), that is, some in-house cost savings and quality improvements are expected to be proposed by M\textsuperscript{D} even though he/she is only paid a fixed wage \(w^D\) and receives no productivity bonus, \(\lambda^D[c(e^D) - b(e^D) + \beta(i^D)] = 0\). As we argue in the following section, the productivity bonus is not the only motivation for M\textsuperscript{D} and it is possible to offer incentives other than the bonus to make M\textsuperscript{D} invest in cost and product innovation even though the net benefit of that investment in period 2 is entirely captured by the employer.\textsuperscript{16}

M\textsuperscript{S} is hired specifically to engage in vigorous innovative activity and expects to be rewarded for it in the form of the productivity bonus \(\lambda^S[c(e^S) - b(e^S) + \beta(i^S)]\). Under this arrangement, the manager’s total income is \(w^S + \lambda^S[c(e^S) - b(e^S) + \beta(i^S)]\), where \(0 < \lambda^S\). The government may appeal to their sense of patriotism and ideological zeal or use coercion and intimidation to force public servants into higher levels of activity. Alternatively, public employees could capture private benefits of their innovative efforts as increments of their personal human capital. For example, the government can ensure that the terms and conditions of employment that apply to all public servants induce high levels of personal effort by allowing employees to capitalize the managerial effort by their efforts through promotion or improved opportunities for better-paid private sector employment in future. This is the old style Westminster model where a senior civil servant may retire early from the service to take up financially far more lucrative employment in the private sector. In Australia, for example, some Australian federal departments (e.g., Treasury, Finance) are highly regarded and their senior managers and professionals can easily transfer into much better paid positions in the private sector. Similarly, many skills acquired in Defence (e.g., pilots) are highly marketable and command significant wage premia when individuals concerned change jobs.

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\textbf{14} We also assume this market segment to be competitive so that competition between job seekers makes the expected wage rate plus bonus equal their opportunity cost/reservation utility, \((w + \text{expected bonus}) = U^S\). The SDPO pays M\textsuperscript{S} the going commercial (private) wage, \(w^S = w^1\) but also offers a bonus conditional on his/her performance. To attract M\textsuperscript{S}, the SDPO must offer \((w^S + \text{expected bonus}) = (w^P + \text{expected bonus})\) with \((w^S + \text{expected bonus}) > w^D\). As \((w^P + \text{expected bonus}) > w^D\), private sector managers are not be tempted to seek public service employment unless adequate wage “loading” is offered by the government.

\textbf{15} Also, the statutory agency may threaten to replace a manager after he/she reveals good ideas and hire a cheaper substitute to drive the implementation process.

\textbf{16} Our approach differs from that of Hart, Shleifer, and Vishny (1997) who assume that government employee captures a positive fraction of the net gain. However, M is unlikely to be offered a bonus equal to the whole amount of the net social gain from his/her innovation as once innovative ideas are revealed, G may replace M with another manager hired to implement them and paid at cost. In their model, G has to pay only what is strictly necessary to encourage innovative ideas so \((1 - \lambda)\) is large and most benefits of cost and product innovation are appropriated by G. We assume that some innovative activity will occur even if \(\lambda = 0\). In particular, M\textsuperscript{P} may engage in significant innovative activity when he/she is an empire builder or derives a lot of job satisfaction from the fixed wage employment. Also, the private reputational capital created through successful cost and quality innovation can later be used to improve promotion prospects or to seek higher remuneration in the private sector.
\( \lambda^S < 1 \). The appropriation fraction, \( \lambda^S \), may be high in some cases as \( M^S \) is hired to implement cost cutting and product quality improvements rather than just volunteer ideas for cost and quality innovation, but we expect \( \lambda^S < 1 \) as, ultimately, \( M^S \) is replaceable as \( G \) owns the DPO while \( D \) negotiates \( \lambda^S \) and can also find someone else to implement good ideas.

For the PDPO, \( M^P \) is assumed to capture all the entire net benefit as he/she owns the agency and cannot be replaced, \( \lambda^P = 1 \). However, \( M^P \) will only pursue cost innovations but not product/quality innovations unless the provision of the basic service can be renegotiated with \( D \). Thus, in the absence of renegotiation, the net benefit of cost innovation accruing to \( M^P \) is \( c(e^P) \).

Let \( y^0 \) denote the basic service specified in the initial contract. We denote its price as \( p(y^0) \). Both \( y^0 \) and \( p(y^0) \) have different interpretation under the three options. Under the in-house option, \( p(y^0) \) is the cost of inputs contracted by \( D \) in period 0. To simplify, we assume that that cost is accounted for by a fixed cost element, \( C^0 \), and the wage of \( M^P \). Thus, for the IDPO, \( p(y^0) = C^0 + w^D \). For the SDPO, \( p(y^0) = C^0 + w^S + \text{bonus} \), which is the cost of inputs contracted by it in period 0.18 And, for the PDPO, \( p(y^0) = P^0 \), which is the price agreed in period 0 between \( M^P \) and \( D \) for the provision of the basic service, \( y^0 \).

In sum, in the absence of renegotiation, the following default payoffs are realized under the three service delivery options:

- \( B^0 - C^0 - w^D + c(e^D) - b(e^D) + \beta(i^D) \) for the in-house DPO;
- \( B^0 - C^0 - w^S + (1 - \lambda^S) \times [c(e^S) - b(e^S) + \beta(i^S)] \) for the statutory DPO;
- \( B^0 - P^0 - b(e^P) \) for the private DPO.

for Defence;

\( n/a \) for the private owner-manager; and

\[
\begin{align*}
& w^D - e^D - i^D \quad \text{in-house DPO} \\
& w^S - e^S - i^S + \lambda^S \times [c(e^S) - b(e^S) + \beta(i^S)] \quad \text{statutory DPO} \\
& n/a \quad \text{private DPO}
\end{align*}
\]

for the employee-manager.

In this framework, the ownership of the DPO also matters because the owner has residual rights of control which allow him/her to obtain information about the possible innovative effort by \( M \). Finally, governance matters because different organizational elements can be empowered to exercise ownership rights on behalf of the de jure owner.

V. EQUILIBRIUM CONDITIONS

In the following sections, we derive optimal conditions for each of the three service delivery models.

A. The First-Best Case

Consider the first-best case which would obtain if the innovation efforts \( e \) and \( i \) were fully contractible in period 0 so that a contract describing the modified procurement service could be written up-front. Under such conditions, \( D \) and the service provider could jointly maximize the total net surplus from their trading relationship and agree rules to divide it between them afterward. The first-best outcome is obtained by maximizing

\[
\max_{e,i} \{c(e) - b(e) + (i) - e - i\}
\]

to determine the marginal benefit and cost conditions

\[
\begin{align*}
(1) \quad & c_e(e^*) - b_e(e^*) = 1 \text{ and} \\
(2) \quad & \beta_i(i^*) = 1 \text{(3)}
\end{align*}
\]

where subscripts denote derivatives. As Hart, Shleifer, and Vishny (1997, p. 1137) put it

At the social optimum, the marginal social benefit of spending extra effort to reduce costs, measured to take into account marginal quality deterioration, must equal the marginal cost of that extra effort, which equals one. Similarly, the marginal social benefit of spending extra effort to improve quality must equal the marginal cost of that extra effort, which again equals one.
B. IDPO

There is no renegotiation of the initial contract as M^D is paid w^D regardless of his/her innovative efforts, e^D and i^D, and D captures the entire net social benefit of the innovative activity, (1 − λ^D) = 1. Nevertheless, we expect M^D to be sufficiently well motivated to volunteer some innovative suggestions to D for approval. Thus, D maximizes the total net surplus of the innovative activity and the corresponding final payoffs are

\[ U^D = B^0 - C^0 - w^D + c(e^D) - b(e^D) + \beta(i^D) \]

(4)

\[ U^{MD} = w^D - e^D - i^D. \]

(5)

From the menu of effort options proposed by M^D, D chooses the ex post desirable (to it) levels of innovative effort e^Ds and i^Ds by maximizing the net benefit of cost and product innovation

\[ \max_{e,i} \{ c(e^D) - b(e^D) + \beta(i^D) - e^D - i^D \} \]

(6)

\[ c_e(e^Ds) - b_e(e^Ds) = 1 \]

(7)

\[ \beta_i(i^Ds) = 1. \]

(8)

On the face of it, the first-order conditions (7) and (8) are similar to those of the first-best case. In particular, as D chooses the optimum levels of innovative effort, it takes into account the expected negative impact of cost saving innovations on quality. The critics of the IDPO arrangement would point out that M^D may only volunteer the least effort-intensive innovations, if any at all, so that the optimal efforts e^Ds and i^Ds are considerably smaller under the in-house option than the first-best efforts e^* and i^*. The advocates would argue that when the public servant M^D is highly motivated (e.g., publicly spirited or maximizing his/her reputational capital), the final outcome is the same as under the first-best case. It is clearly a matter of empirics to determine the extent to which M^D is sufficiently well motivated to invest in cost and service improvement when his/her wage rate is fixed. It is apparent, however, that innovative efforts under the in-house arrangement depend on nonwage incentives used to motivate public servants. In the absence of such incentives, M^D makes no effort to innovate and e^Ds = i^Ds = 0.

Let γ^D be a “reputational” coefficient which converts the net social benefit of innovative activity implemented by M^D into a fraction his/her reputational capital δK^D

\[ \delta K^D = \gamma^D [c(e^{Ds}) - b(e^{Ds}) + \beta(i^{Ds})], \]

where 0 ≤ γ^D ≤ 1.

If G wishes to make a success of the IDPO, but cannot pay its public servants high enough wages or performance bonuses, it should make γ^D large enough to induce high levels of effort (δK^D and γ^D are particularly important for younger managers keen to develop their reputational capital to earn promotion or move to more rewarding employment elsewhere). Thus, as γ^D and δK^D increase, the manager’s innovative efforts approach the first-best outcomes, e^Ds → e^* and i^Ds → i^*.

The total surplus under the in-house service delivery option is

\[ S^D = U^D + U^{MD} = B^0 - C^0 + c(e^D) - b(e^D) + \beta(i^D) - e^D - i^D. \]

(9)

When γ^D = 0, M^D makes no investment in cost and quality innovation and S^D = B^0 − C^0. When γ^D = 1, M^D makes maximum investment in cost and quality innovation even though the net social benefit of investment efforts e and i is captured by D in period 2.

C. SDPO

There is renegotiation of the initial contract at the beginning of period 2 even though M^S has been offered a bonus, λ^S[c(e^S) − b(e^S) + β(i^S)] for his/her innovative efforts, e^S and i^S, in addition to his/her wage w^S. (D captures the (1 − λ^S) fraction of the net benefit of cost and quality innovation.) While M^S knows the bonus rate, λ^S, he/she must nevertheless negotiate with D over λ^S[c(e^S) − b(e^S) + β(i^S)], which it cannot be appropriate unless D authorizes the proposed efforts e^S and i^S. Suppose the parties use the Nash bargaining to split the gain 50 : 50.19 Thus, the SDPO maximizes the total net surplus of the innovative activity and the corresponding final payoffs are

\[ U^{D/S} = \frac{B^0 - C^0 - w^S + (1 - \lambda^S/2) × [c(e^S) - b(e^S) + \beta(i^S)]}{2}. \]

(10)

19. Alternatively, S bargains with M^S over the bonus rate in period 0, so that λ^S/2 is determined as a default bonus rate.
Innovative effort without D’s consent as long as \( b(e^P) \) does not involve a violation of the initial contract. As the parties are assumed to have rational expectations, \( M^P \) chooses levels of innovative effort \( e^{P*} \) and \( i^{P*} \) by maximizing

\[
\max_{e,i} \{1/2\beta(i^*) + c(e^P) - e^P - i^P\}
\]

where

\[
\beta(e^P) = 1 \quad \text{and} \quad 1/2\beta(i^{P*}) = 1.
\]

The optimum levels of private innovative effort take no account of the expected service quality degradation resulting from \( M^P \) cost savings efforts. Thus, the social benefit of private process innovation is overvalued. In comparison with the first-best case, the amount of effort devoted to cost innovation is excessive. Also, because he/she only receives half of the benefit of product innovation, \( M^P \) has less incentive (than in the first-best case) to make quality improvements.

The total surplus under the private service delivery option is

\[
S^P = U^{D/P} + U^P = B^0 - C^0 + c(e^S) - b(e^S) + \beta(i^S) - e^S - i^S.
\]

As Hart, Shleifer, and Vishny (1997, pp. 1137–38) observe:

The price \( P^0 \) is chosen to allocate this surplus between the parties according to their relative bargaining positions at date 0. The formula for \( S^P \) (in our notation) reflects the fact that the parties bargain efficiently ex post, but there is a distortion in relations-specific investments \( e \) and \( i \).

E. The Choice of Delivery Model

To choose the best service delivery model in period 0, \( G \) should maximize the expected total surplus, \( S \). As the only difference between the delivery models pertains to the ex ante choice of innovative efforts \( e \) and \( i \), the public ownership option appears to be superior to private ownership in that all information about the expected net benefit of innovative efforts is fully symmetric. That is, as \( G \) is the DPO owner, \( D \) is assumed to be fully aware of the detrimental impact of cost savings on service quality. In the PDPO case, \( M^P \) makes cost savings innovations that

\[
U^{MS} = w^S + \lambda^S/2[c(e^S) - b(e^S) + \beta(i^S)] - e^S - i^S.
\]

\( D \) chooses the ex post desirable levels of innovative effort \( e^{S*} \) and \( i^{S*} \) by solving

\[
\max_{e,i} \{\lambda^S/2[c(e^S) - b(e^S) + \beta(i^S)] - e^S - i^S\}
\]

\[
\lambda^S/2c(e^{S*}) - b(e^{S*}) = 1 \quad \text{and} \quad \lambda^S/2\beta(i^{S*}) = 1.
\]

In comparison with the first-best case, \( M^S \) has a weak incentive to innovate as he/she only receives the fraction \( \lambda^S/2 \) of the net benefit of his/her innovative efforts. Market competition will also ensure that the public sector bonus is in line with the private sector bonus expectations. And, \( D \) may threaten to replace \( M^S \) after he/she reveals good ideas and hire a cheaper substitute (offer a smaller \( \lambda^S \)) to drive the implementation process.

The total surplus under the in-house service delivery option is

\[
S^S = U^S + U^{MS} = B^0 - C^0 + c(e^S) - b(e^S) + \beta(i^S) - e^S - i^S.
\]

Under this option, \( M^S \) is only motivated by his/her financial payoff in period 2 and we assume \( \gamma^S = 0 \). The managerial wage, \( w^S \), is used to allocate the surplus \( (B^0 - C^0 - w^S) \) while the division of the innovation-related component of the total surplus, \( \lambda^S \), must be negotiated by the parties.

D. PDPO

Under this delivery option, there is also renegotiation as the private owner-manager, \( M^P \), would only invest in quality innovation, \( \beta(i^P) \), if his/her effort \( i^P \) is approved and rewarded by \( D \). Again, the expected gain is split 50:50 and the final payoffs are

\[
U^{D/P} = B^0 - P^0 + 1/2\beta(i^P) - b(e^P)
\]

\[
U^P = P^0 - C^0 + 1/2\beta(i^P) + c(e^P) - e^P - i^P.
\]

However, as the initial contract is incomplete, the PDPO may engage in cost saving activities...
reduce the noncontractible service quality and this quality degradation becomes apparent to D only at the end of period 2 when all payoffs are realized.21 (Otherwise, renegotiation under symmetric information ensures that both the SDPO and PDPO result in ex post socially efficient outcomes.)

\[(22) \ S^S > S^P \]

\[(23) \ c(e^S) - b(e^S) + \beta(i^S) - e^S - i^S > c(e^P) - b(e^P) + \beta(i^P) - e^P - i^P \]

The ranking of the IDPO is more ambiguous as the managerial remuneration given in Equation (5) provides no inducement to innovate. However, if G succeeds in incorporating high-powered incentives into general terms and conditions of public service employment, high levels of innovative effort might be achievable.22 Thus, under a very high-powered incentive regime, \( \gamma^D \rightarrow 1 \), it might be possible for \( S^D > S^S > S^P \).23 However, if incentives are poor, \( \gamma^D \rightarrow 0 \), we expect the in-house option to be the least desirable one, \( S^S \geq S^P > S^D \).

VI. COMPARISONS OF SERVICE DELIVERY MODELS

A. Formal Results

We first consider inferences drawn by Hart, Shleifer, and Vishny (1997, pp. 1139–1143) (for more detailed discussion see the source). Their formal results are summarized in the form of five propositions that capture the essential differences and tradeoffs between two service delivery options: privatized provision, similar to our PDPO, and in-house provision, similar to our SDPO. We modify the five propositions to tailor them more specifically to the three options considered in this paper and broaden the approach by adding two further propositions.

21. In reality, Defence may learn from its past experience and tighten quality attributes of the basic service negotiated in period 0. Thus, it would be harder for the PDPO to chisel quality without the necessary contract variation.

22. Such measures cannot be applied locally in the context of the defence procurement function unless it is detached from Defence and restructured as a separate agency operating under different conditions than other public service elements: which is the very point of the proposed restructuring of the Australian DMO into an executive-prescribed statutory agency.

23. In this case \( M^D \) is as highly motivated as \( M \) in the first best case, there are no information asymmetries about the exact nature of the modified service and D maximizes the total surplus equivalent to the first best surplus.

PROPOSITION 1. Relative to the first-best conditions, \( e \) is inefficiently high and \( i \) inefficiently low under the PDPO model; \( e^{P^S} > e^* \) and \( i^{P^S} < i^* \).

This is because \( M^P \) is not concerned with the detrimental impact of cost savings on service quality and D can only assess the extent of quality degradation at the end of period 2 but cannot do much about it as it does not represent an infringement of the initial contract. Thus, the PDPO over-invests in \( e \) relative to the social optimum. On the other hand, it under-invests in \( i \) as it places less than 100% weight on the gains from product innovation while under the first-best conditions the weight is 100%.

PROPOSITION 2. Relative to the first-best conditions, \( e \) and \( i \) are both inefficiently low under the SDPO model, \( e^{S^S} < e^* \) and \( i^{S^S} < i^* \). Also, \( i \) is lower under the statutory arrangement in comparison with the PDPO as long as \( \lambda^S < 1 \); \( i^{S^S} < i^{P^S} < i^* \) when \( \lambda^S < 1 \) but \( i^{S^S} = i^{P^S} = i^* \) when \( \lambda^S = 1 \).

As \( M^S \) cannot implement cost and quality innovation without D’s approval, the detrimental impact of cost savings on quality is taken into account by D and, thus, \( M^S \). But, \( M^S \) places less than 100% weight on the gains from both types of innovation relative to the weight of 100% under the first-best conditions.

PROPOSITION 3. The PDPO is unambiguously superior to the SDPO when:

- the quality degradation resulting from cost innovation is small; and
- the opportunities for cost savings are limited (so there is also small likelihood of the offsetting quality degradation) and when \( M^S \) has little incentive to innovate (\( \lambda^S \rightarrow 0 \)).

In the first case, the PDPO has stronger incentives to cut cost while the offsetting impact of quality degradation is small. In the second case, it is more likely to engage in product (service quality) innovation than the SDPO with its stunted incentive to seek quality improvements.

PROPOSITION 4. The SDPO is superior to the PDPO when:

- the expected quality degradation caused by cost innovation is large and the \( M^S \) has a strong incentive to improve quality (\( \lambda^S \rightarrow 1 \)); and
• the opportunities for quality innovation are limited and only cost innovation matters but its benefit is likely to be offset by quality degradation.

In the SDPO model, D must approve all cost innovation proposed by M^S so the weak incentive to cut costs is preferable when the likely quality degradation is large enough to offset the expected costs savings. But, when the incentive to innovate is strong (\(\lambda^S \rightarrow 1\)), the SDPO may be just as motivated as the PDPO to improve service quality. Alternatively, if there is little scope to improve quality, the SDPO provides a more direct way of preventing the detrimental impact of cost innovation on service quality, which is particularly important when the expected benefit of cost cutting efforts is about equal the likely disbenefit of quality degradation. The SDPO is superior to the PDPO as it offers more scope for reducing the detrimental impact of cost savings on quality.

PROPOSITION 5. The cost of procurement services is always lower under the privatized provision than under the statutory option, \(C^0 + c(e^P) < C^0 + c(e^S)\), but quality may be higher, equal, or lower under the private option, \(B^0 - b(e^P) + \beta(i^P)\) is either \(\geq 0\) or \(\leq B^0 - b(e^S) + \beta(i^S)\).

Costs are always lower in the case of PDPO as it devotes socially excessive effort to cost reduction, \(e^S < e^* < e^P\) (see Proposition 1). But it is possible for the PDPO also to deliver higher quality service when the detrimental impact of its cost saving efforts is small while it has a stronger incentive than the SDPO to invest in quality. The final quality outcome is determined by differences in the quality innovation effort \(i\). On the other hand, if the expected impact of quality innovation is small, the overall quality may be higher under the SDPO. This is because D is better placed to resist the detrimental impact of cost cutting on quality and the final quality outcome is determined by differences in the cost innovation effort \(e\).

Overall, the PDPO has a tendency to over-invest in cost saving innovation, \(e^P > e^*\), and a tendency to under-invest in service quality improvement, \(i^P < i^*\). The SDPO replaces the tendency to over-invest in \(e\), with a weaker incentive to invest in \(e\) and \(i\). Propositions 3–5 suggest the conditions under which each distortion is most likely to dominate.

We can now consider the IDPO. We assume M^D to be motivated by the expected net social benefit of his/her innovative efforts as long as this will add an increment to his/her reputational capital, \(\delta K^D\). When \(\gamma^D = 0\), there is no personal incentive to invest and D must use some form of central direction to make its employees innovate. When \(\gamma^D = 1\), there is a very strong incentive to innovate as the whole of the net gain from innovation is used as a basis to increase the manager’s reputational capital. The superiority of high-powered incentives, \(\gamma^D \rightarrow 1\), follows by assumption: the highly-motivated M^D generates the same amount of innovative effort as his/her first-best counterpart (if \(\gamma^D = 1\), \(e^D^* = e^*\) and \(i^D^* = i^*\)) while D also ensures that the detrimental impact of cost innovations on quality is taken into account by M^D. Proposition 6 follows.

PROPOSITION 6. When \(\gamma^D \rightarrow 0\), the in-house procurement manager has a weak incentive to innovate so that \(e\) and \(i\) are inefficiently low relative to the first-best case and other service delivery options, \(e^D^* \rightarrow 0\) and \(i^D^* \rightarrow 0\); \(e^S < e^S^* < e^* < e^P^*\); and \(i^S^* < i^S^* < i^P^*\) if \(\lambda^S < 1\) (\(i^S^* = i^P^* \text{ if } \lambda^S = 1\)). (In the absence of nonwage incentives \(e^D^* = i^D^* = 0\.).

When \(\gamma^D \rightarrow 1\), the in-house procurement manager has a strong incentive to innovate so that \(e\) and \(i\) are close to the first-best case and, thus, the IDPO is superior to other service delivery options, \(e^S^* < e^D^* \rightarrow e^* < e^P^*\); and \(i^S^* < i^D^* \rightarrow i^*\) if \(\lambda^S < 1\) (\(i^S^* = i^P^* \text{ if } \lambda^S = 1\)).

Comparisons between the SDPO and the IDPO depend on the relative power of motivational factors, \(\lambda^S\) and \(\gamma^D\). When, M^S is highly-motivated, \(\lambda^S \rightarrow 1\), \(e^S^* < e^* < e^P^*\) and \(i^S^* < i^P^* \rightarrow i^*\) as he/she only receives a productivity bonus that is a fraction (\(\lambda/2 \rightarrow 1/2\)) of the net social benefit of innovative activity. At best, M^S may engage in quality innovation similar to that of the PDPO, \(i^S^* = i^P^*\) and \(\lambda^S = 1\). The superiority of the in-house operation follows as long as public servants can be motivated into high levels of effort by nonfinancial incentives (promotion, honors, and future employability) rather than wage and productivity bonuses. Under our stylized arrangements, the SDPO must rely on financial incentives, \(w^S\) and \(\lambda^S\) and, to induce high levels of innovative effort, G must be prepared to pay very high productivity bonuses, \(\lambda^S \rightarrow 1\). In mature democracies, governments find it difficult to pay such high bonuses. Thus,
we expect $M^S$ to be less well motivated to invest in $e$ and $i$ than the high-powered $M^P$.24

B. Ownership, Governance, and Agency Structure

Hart, Shleifer, and Vishny (1997) also consider the separation of managerial control from ownership under privatization of service delivery, in which case the residual rights of control are transferred from the owner to the hired manager. This, they note, may require the modification of at least some of the tradeoffs discussed in their paper. However, it should not reduce the excessive tendency to cut costs under private ownership as the private gain from cost cutting can always be split between the owner and the manager. The incentives to improve quality are less clear cut as $M^P$ must negotiate how the expected surplus is to be shared both with the customer and the owner. In general though, if “the manager of a private firm must share the fruits of his innovation with both the owner(s) and the government, as opposed to just the government, the private manager’s incentives to innovate will be smaller” (Hart, Shleifer, and Vishny 1997, p. 1143).

Hart, Shleifer, and Vishny (1997) do not draw a sharp enough distinction between the mode of activity ownership and its governance. Thus, the tendency to over-invest in cost innovation and under-invest in quality improvement is attributed solely to the private enterprise. However, any “detached” profit maximizing business entity, including government-owned trading enterprises, will have a strong incentive to engage in deep cost cutting activities to produce a surplus for their equity holders and (surplus-based) bonuses for their managers. These cost cutting efforts may also result in product quality degradation which the surplus-seeker has no incentive to avoid and which may not be visible to the service buyer.25 Generally, noncontractible quality is likely to be a problem when the customer and the provider are separate organizational entities regardless of their mode of ownership.

The assumed unitary decision-making structure under public ownership accounts for much of its informational superiority and managerial effectiveness. But when the public sector is fragmented with different public agencies free to pursue their own, often conflicting, business objectives, it will be subject to informational asymmetries similar to those attributed by Hart, Shleifer, and Vishny to the private mode of service provision. In short, it is the activity governance and control rather than the DPO ownership that accounts for the apparent differences and tradeoffs between the three service delivery options considered in this paper. Proposition 7 follows.

PROPOSITION 7.

- Costs, $(C^0 + c(e) + w)$, tend to be lower when the procurement service is provided by a profit-seeking business entity, regardless of whether it is privately or publicly owned. Quality, $(B = B^0 - b(e) + \beta(i))$, may be higher or lower under different ownership and governance arrangements.

- Given informational asymmetries about production costs and opportunities for cost reduction, and the likely complexity of the buyer’s organizational structure, public ownership of the DPO per se is not sufficient to prevent the degradation of noncontractible quality caused by cost innovation.

- Neither public nor private provision results in both lower cost and higher quality. Either mode of ownership may be superior if combined with an appropriate form of governance and a regime of high-powered managerial incentives.

VII. EXTENSIONS AND CONCLUDING COMMENTS

We conclude that the ultimate ownership of residual rights of control under the public or private mode of ownership matters less than how these rights are delegated to specific decision-making entities, the modus operandi of each of these entities, contractual arrangements that govern the interaction between them and managerial incentives. King and Pitchford (2008, p. 368) argue that “while the case for private ownership can sometimes be made on the basis of qualitative characteristics (that is, the direction of the external commercial and spillover effects), public ownership requires quantitative analysis.” We go further: the relative merits of all alternative ways of service delivery require quantitative analysis. Which service delivery option is
superior depends on how ownership and management are integrated and all such assessments should be made on a case-by-case basis.

That said, the private mode of ownership does offer more scope for diversifying financial incentives (e.g., performance-related bonuses). This is because it allows the private accumulation of nonhuman assets, such as equity capital, that are transferable between individuals and usually marketable. Thus, the wealth maximizing MP may be offered more choice with respect to asset formation and capital accumulation.

Earlier, we assumed that the DPO would monopolize the provision of procurement services to Defence in each of the above service delivery options. But, periodically auctioning off the PDPO to the highest bidder could create scope for at least some competition for the market and a degree of contestability in provider-customer relations. In principle, the Defence procurement function could be fragmented with Services and other organizational elements in Defence seeking procurement service support through competitive tenders. The robustness of such arrangements would depend on the contestability of supply. If the procurement service providers, for example, were highly competitive at every product quality level, market rivalry would ensure that each “private contractor would face exactly socially optimal incentives, since, on the margin, he gets a lower price for any quality shortfall resulting from a cost reduction, and a higher price for any quality improvement through innovation” (Hart, Shleifer, and Vishny 1997, p. 1144). With vigorous for-the-market but little in-the-market competition, the PDPO is likely to be more responsive to Defence needs and more cost-efficient than the pseudo-commercial SDPO. But, in the absence of market contestability, the PDPO is likely to be as inefficient as its statutory counterpart and inferior relative to a well-managed and strongly motivated in-house provision.

Our analysis highlights the vacuity of recent calls for greater commercial orientation and business acumen in the context of public ownership of the procurement function and refusal to countenance turning the DPO into a government-owned trading enterprise. Nor do advocates of a more business-like approach explain why people involved in commercial procurement activities are better skilled and more disciplined relative to their public sector counterparts. We show that the conventional in-house model of service provision is potentially efficient if public servants are provided with appropriate incentives. We also constructed the privatized model to test loose claims that the Defence procurement function can, and should, be operated “commercially.” This helped focus attention on the real issue which, in our view, is about incentives, not ownership.

REFERENCES


