FACTSHEET 005 – COST

Introduction

Cost is an essential consideration in a Performance Based Contract (PBC). Typically, cost in a PBC refers to the Total Cost of Ownership (TCO) which is defined as the total cost of the capability, represented in part by the total cost of the contract. While the use of cost as an outcome is appropriate, especially in the public sector given the use of public monies, the implementation and administration of TCO is complex. For example, if a particular TCO model requires cost investigators, either internal or external, this will not be without a significant resource cost to both the Contracting Agency and the Contractor.

When looking at cost there are three principles that should be considered when implementing cost in a PBC as follows:

1. Aim of reducing costs for a specific level of capability over the life of the contract
2. Management of Cost allows the Contracting Authority to:
    a. Benefit during the period of cost saving
    b. Support the contractor during the period of cost increases as the capability becomes older and sustainability more expensive
    c. Reduce the risk associated with replacing a contractor when costs are no longer viable for the existing contractor to support the capability
3. Management of Cost allows the Contractor to:
    a. Offer a financially competitive solution by having a lower initial cost at the beginning of a long term contract, while
    b. Having support for increasing costs as the capability becomes older and sustainability more expensive.

Importantly, it is widely recognised that cost varies over the product lifecycle from (1) the introduction of a new capability, through (2) steady-state usage, and then potential (3) mid-life upgrades/modification through to (4) disposal. This variation in cost can be categorised into three main phases over the product lifecycle as follows:

1. ***Cost Exploration*** – high cost uncertainty due to uncertainty in usage, materiel performance and schedule. Typically encountered at the start of a new capability;
2. ***Cost Reduction*** – as the materiel becomes "bedded-down" the original cost uncertainties are reduced; and
3. ***Cost Containment*** – as the materiel ages a number of effects including wear-out effects, technology re-fresh, reduced access to engineering services/maintenance staff/spares and a reduction in number of suppliers and total fleet size. This is typical of the concept of obsolescence. For aviation platforms this point has been shown to be at the 10 – 12 years point.

The relationship between the 3 phases and the product lifecycle is shown in Figure 1.

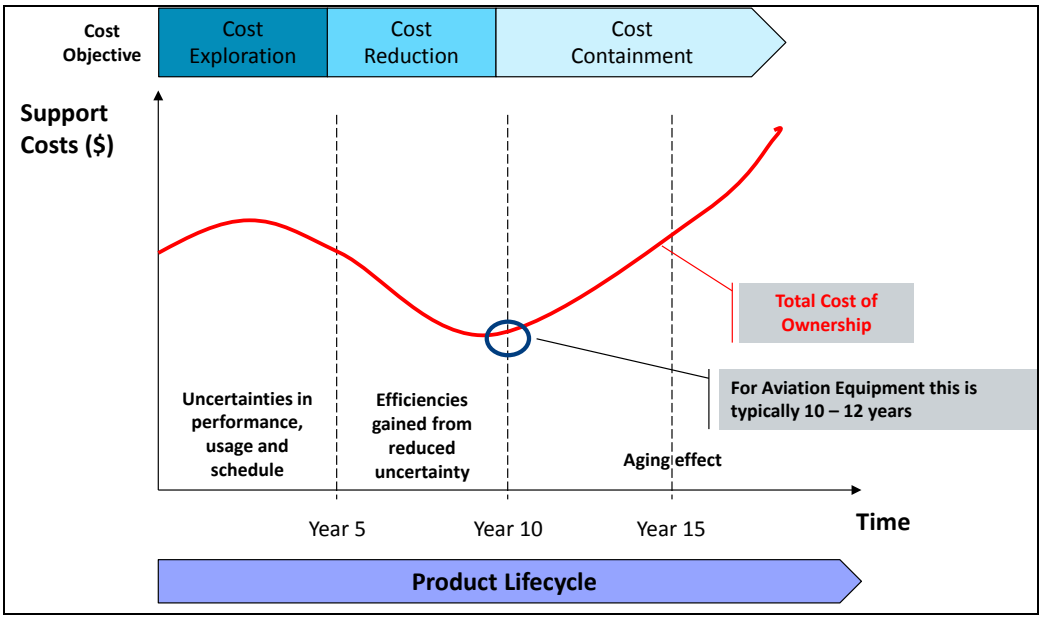

Figure 1: Cost Variation over the Product Lifecycle

Regardless of where the capability is in the product lifecycle the cost outcome has one of three objectives in a PBC:

1. ***Cost Containment*** – where contract price shall not increase above a fixed price while delivering the same level of service;
2. ***Cost Reduction*** – where the contract price reduces while delivering the same level of service; and
3. ***Cost Certainty*** – where the Contracting Authority objective is for the contract price to remain the same for budget certainty given the impact of budget changes, specifically in the Government sector.

While the names are similar to the cost phases discussed previously, they do not need to align.

Key Points in Using a Cost Performance Measure

In implementing and using a cost performance measure in a PBC there are a number of key points that need to be considered as follows:

1. ensure that the selected model demonstrates Value for Money (VFM) for the Contracting Agency (e.g. the cost of attempting to attribute the cost saving may outweigh the cost saving itself);
2. does not distract the Contractor from meeting its performance obligations under the contract;
3. produce real and effective improvements to the support of the Capability without detriment to capability due to aggressive cost saving; and
4. provides sufficient incentive to the Contractor to achieve the cost outcome.

Based on one of these outcomes there are a number of TCO models that are available for implementation, each with their own advantages/disadvantages. Table 1 provides a summary of the commonly used TCO models available for implementation in a PBC.

TCO Model	Comments
Fixed Price Contract	Assumes the Contractor will make efficiencies to reduce cost and therefore increase the profit margin.
Productivity Dividend	A system of enforced reduction in cost which occur on a timely basis regardless of actual cost.
Fixed Profit (Evergreen) Contract	A level of profit is guaranteed by the Contracting Authority regardless of the overall cost.
Pain-Share/Gain-Share	Profit level paid is modified by the actual cost. An increase in price decreases the profit margin for the next Performance Period while an increase in price will lead to an increased profit margin.
Productivity Improvements	Modification of the Contract Price based on a Sector wide statistical variation in Productivity.
Benchmarking	Direct comparison of the price of the services being delivered as compared with costs for the same or similar equipment.

Table 1: TCO Model and PBC Payment Regime

Fixed Price Contract

A Fixed Price Contract, as the name suggests, fixes the price of the Contract for a specified period of time. A Fixed Price Contract implicitly expects that the Contractor will find efficiencies during this time thereby increasing the profit margin. Conversely, if the cost increases, there is a risk that the profit margin will reduce. This can be seen in Figure 2. These types of contracts are commonplace between the US DoD and their suppliers under PBC arrangements.

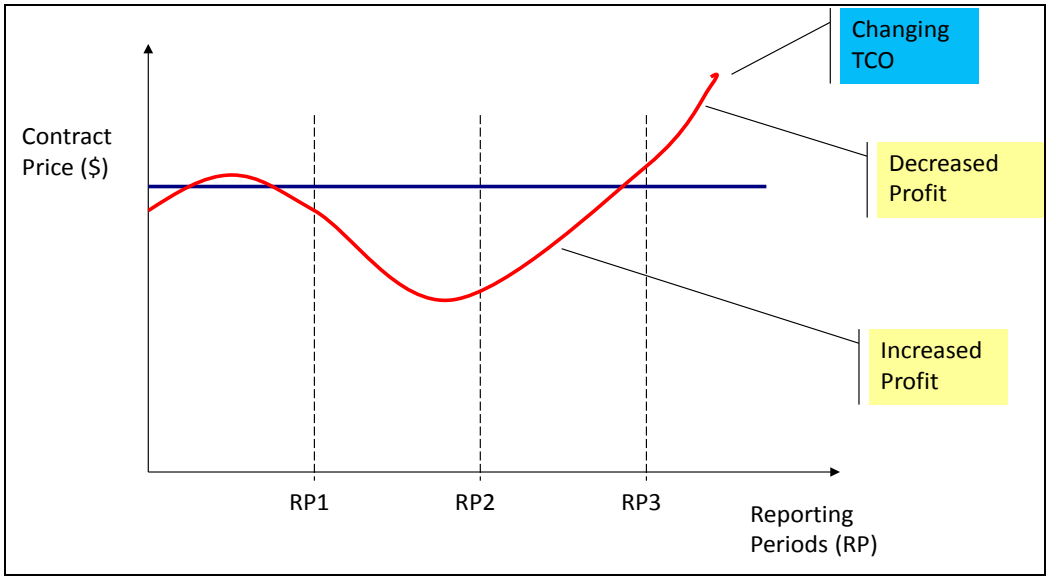

Figure 2: Fixed Price Contract - Total Cost of Ownership Model

Product Dividend

In certain contracting situations it may be appropriate to build a predetermined cost reduction per year for the life of the contract into the contract price. The cost reduction would occur at specified intervals and would not necessarily account for actual changes in costs during the period. This cost model is useful for the Contracting Agency where there is strong market competition. However, there is a risk that the Contractor may choose to break the contract at the end of the product lifecycle given a potential (real) loss. This is shown in Figure 3.

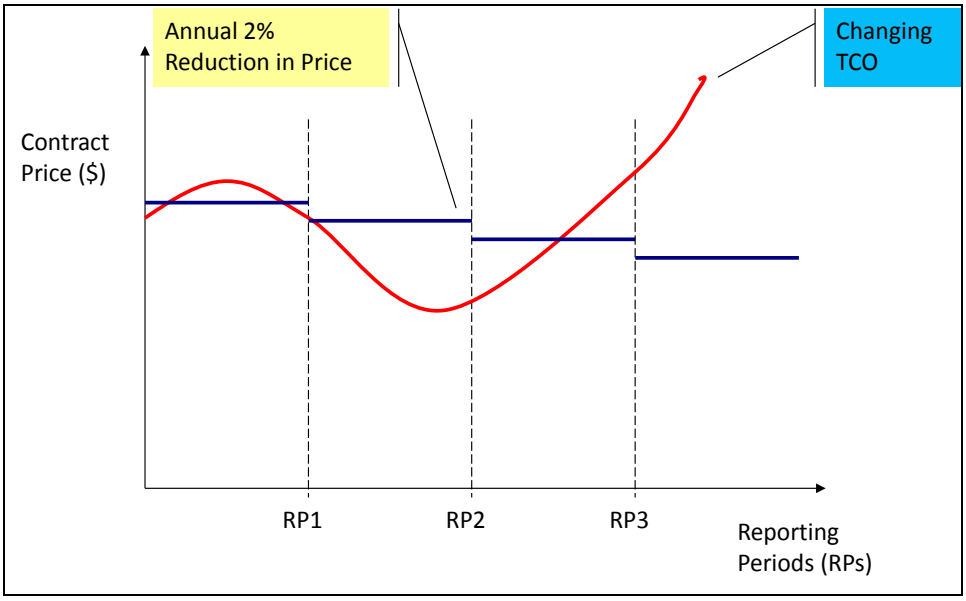

Figure 3: Productivity Dividend Contract - Total Cost of Ownership Model

Cost+ / Fixed Profit (Evergreen) Contract

The Cost+ / Constant Profit Margin Model can be implemented using a constant profit margin where the agreed profit margin for the contractor is guaranteed for the life of the contract. Accordingly the Contracting Authority will lower or raise the level of support payments to ensure this margin is maintained. However, there is no explicit incentive for the Contractor to reduce (or constrain) the TCO. This is shown in Figure 4.

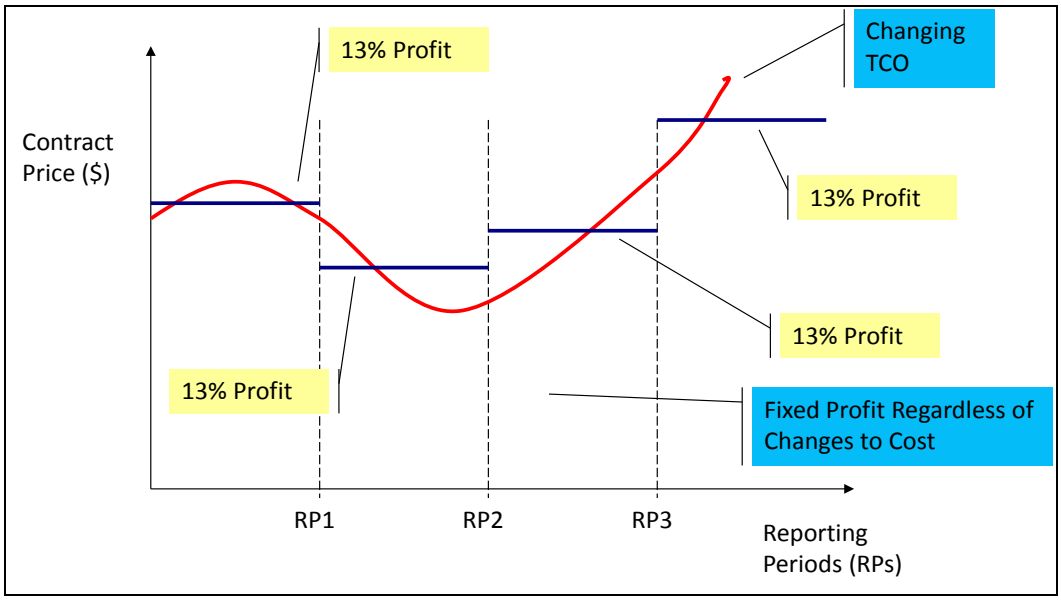

Figure 4: Fixed Profit (Evergreen) Contract - Total Cost of Ownership Model

Cost + Fixed Fee

The Cost + Fixed Fee model combines the intent of the Cost+ model with the Fixed Price model. In this case the Contractor on an at least annual basis develops an estimate of the next year's cost. The Contracting Agency and Contractor agree to a profit level applied to this estimate which is then fixed. The Contract is then only paid through reimbursement of their actual cost, noting the profit payment is based on the original fixed amount. Accordingly, if the Contractor's costs are lower, the actual profit margin is higher than originally agreed. Conversely, if the Contractor's costs are higher, the actual profit margin is lower than originally agreed.

Pain-share / Gain-share Contract

The 'pain share / gain share' model is a commonly used TCO model where the Contracting Authority and Contractor intend to share both the risks and rewards of cost changes during a program. As shown in Figure 5 using the formula in Equation 1, profit in the new period is affected by cost performance in the previous period, such that cost overruns result in a reduced profit for the next period, while cost savings are encouraged by higher profit margins for the next period.

$$M_{New} = \frac{\left[P_{Old} - S \times \left(C_{Old} - C_{New}\right)\right]}{\left[C_{New} - 1\right]}$$

Equation 1: Pain-Share/Gain-Share Model

Where:

M_{new} = Profit Margin in New Period

P_{Old} = Price in Old Period

C_{Old} = Cost in Old Period

C_{New} = Cost of New Period

S = percentage (%) of pain share/gain share

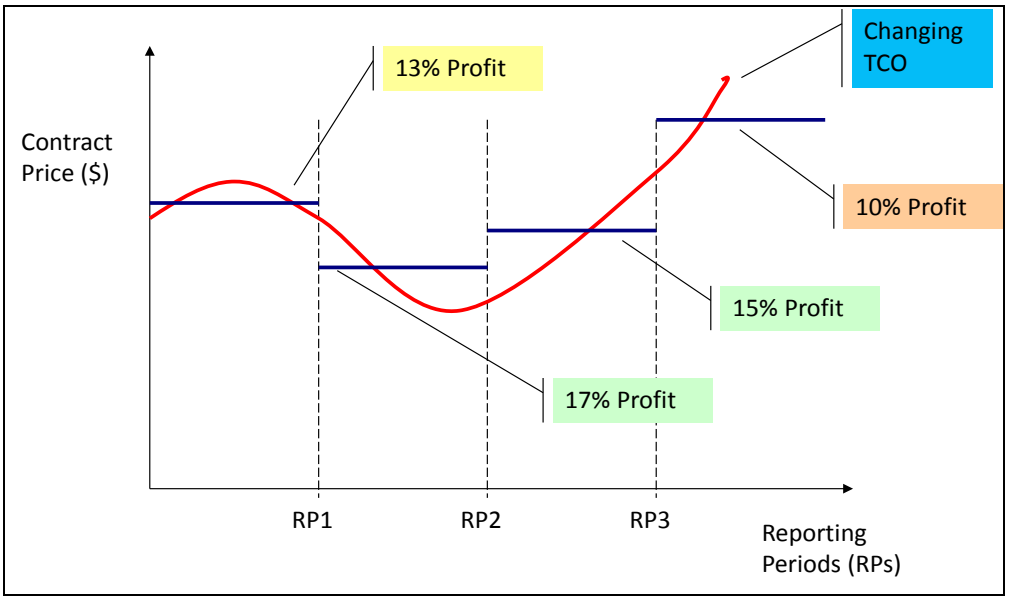

Figure 5: Pain-Share/Gain-Share Contract - Total Cost of Ownership Model

Productivity Improvements

In certain contracting situations it may be appropriate to use predetermined cost reduction indices, in this case (issued by the Australian Bureau of Statistics (ABS)) to ensure that any industry wide productivity savings is passed onto the Contracting Authority.

The main complexity with the application of the Productivity Improvement model is selection of the appropriate index since there are many indices to choose from. Too narrow a focus on a particular industry or sector may hold substantial risk to either party. This is because, in specific sectors, Contractors or their Affiliates are themselves responsible for actually affecting the index by increasing their price. Moreover, added complexity is the amount of Government Furnished Material (GFM) in the contract which will dictate the index or percentage of index used e.g.; multifactor, capital index or labour index.

As part of the implementation of the model a cost recovery method must be agreed to or payments may need to be withheld from subsequent contract payment period to recover savings calculated.

Benchmarking

Benchmarking is simply the process by which the Contact Price is compared against the current market price for equivalent services. If the Contract Price is higher than market price, a reduction in the price charged to the Contracting Agency should be made. Alternatively, if the Contract Price is lower than market price, an increase in the price charged to the Contracting Agency should be made. This process would be undertaken on an annual, an 'x' yearly benchmarking exercise or an adjustment to costs charged where the difference between market price and price charged to Contracting Agency is greater than 'y%'.

Combined Cost Model

The variation in costs and their associated objectives over the product lifecycle lends itself to the use of a combined cost model which uses the optimal cost model during the various phases of the product lifecycle. While this may be contractually harder to draft and manage it ensures that the cost objectives and cost models are aligned. This is shown in Figure 6.

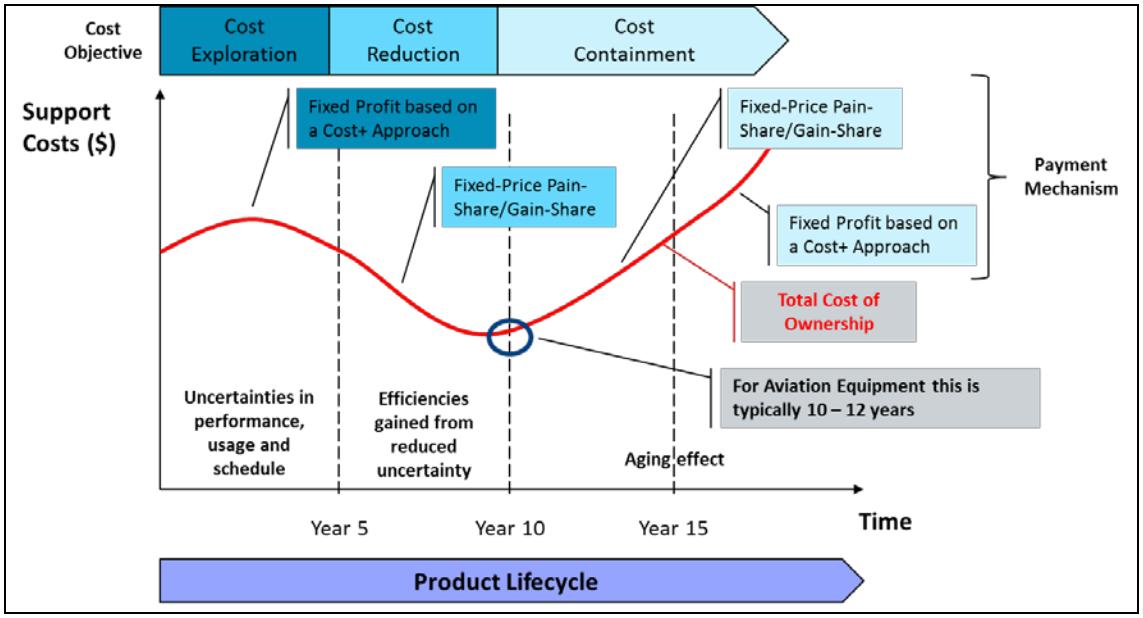

Figure 6: Combined Cost Model

Which Cost Model to Choose?

In choosing the appropriate cost model the following factors need to be considered:

1. does the contract specify “Open” or “Closed” book accounting (e.g. accessing the actual costs and margin of the Contractor, etc.);
2. will the market drive a fair price (e.g. during initial Tender process rather than contract renewal, monopoly or duopoly, etc.);
3. is there sufficient contract duration to recoup savings from investment;
4. is there the ability for the Contracting Agency to re-coup reduction in ownership cost either in the short or medium term;
5. is the level of financial risk acceptable (e.g. cost outcomes);
6. what is the complexity and resource implication (i.e. cost) of the re-pricing process; and
7. can the Contract be benchmarked.